The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCTION AND PIPE LINE DIVISIONS

NEWS

STATISTICS

15c

MAY 16, 1932

lume 65 Number 9

"IT'S THE BEST" *say* 98%

More than *2300* oil men, executives in charge of production and pipe line work, engineers, superintendents, purchasing agents, independent operators and drilling contractors recently made written expression on The Composite Catalog of Oil Field and Pipe Line Equipment. The question was asked, "Is The Composite Catalog your best single source of information on oil country equipment?"

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So It Is With Wire Rope That Is Not Preformed

In non-preformed wire rope, wires and strands are under constant internal stress—because they are forcibly held in their helical positions. Witness how, when ordinary wire rope is cut, the strands and wires unravel and straighten out as the internal stress is relieved.

Due to internal inherent torsional strain, non-preformed wire rope wears out prematurely. Its life is cut short because the wires fatigue earlier and the rope loses its elasticity and strength.

TRU-LAY Preformed Wire Rope Resists Fatigue Resulting in Increased Service Which Averages Between 30% and 300% Over Non-Preformed Rope

The statement "30% to 300% increased service with TRU-LAY" is not merely an advertising claim. Hundreds of bona-fide service reports in our files prove that under the same operating conditions—and on the same equipment—TRU-LAY thus outwears and outlasts non-preformed wire rope.

If you are interested in lowering your wire rope costs, investigate TRU-LAY. For more facts, address:

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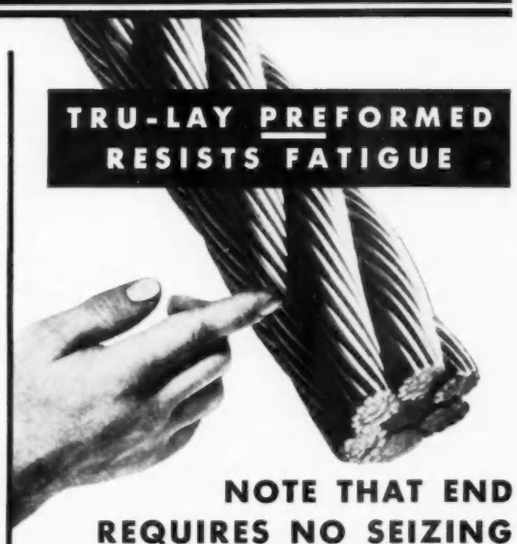

TRU-LAY PREFORMED RESISTS FATIGUE

NOTE THAT END REQUIRES NO SEIZING

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In Tru-Lay, wires and strands are helically shaped so they lie in position, *relaxed*. There is no straightening-out tendency—no internal stress. The result is less fatiguing action, longer life, easier handling, greater flexibility, just to mention a few of the advantages of TRU-LAY.

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PROGRESS

IN the field of *transportation* nothing indicates progress more clearly than the time required for a message to travel from New York to Boston: In 1789, by coach, *7 days;* in 1932, by air mail, *2 hours.*

In the field of *oil industry pumps,* nothing indicates progress more clearly than a comparison of present-day models with those in use before GASO entered the field.

GASO Pumps are unmatched for oil industry service because they are designed exclusively for oil industry use. The GASO organization lives in the heart of the industry; knows the conditions under which the pumps must operate; concentrates its energies on the fulfillment of oil industry needs.

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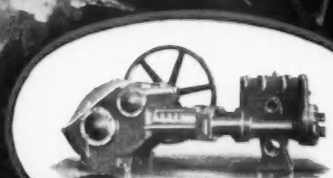

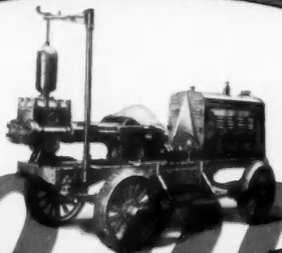

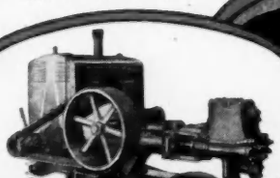

GASO PUMPS

for every oil industry need

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for every oil industry need

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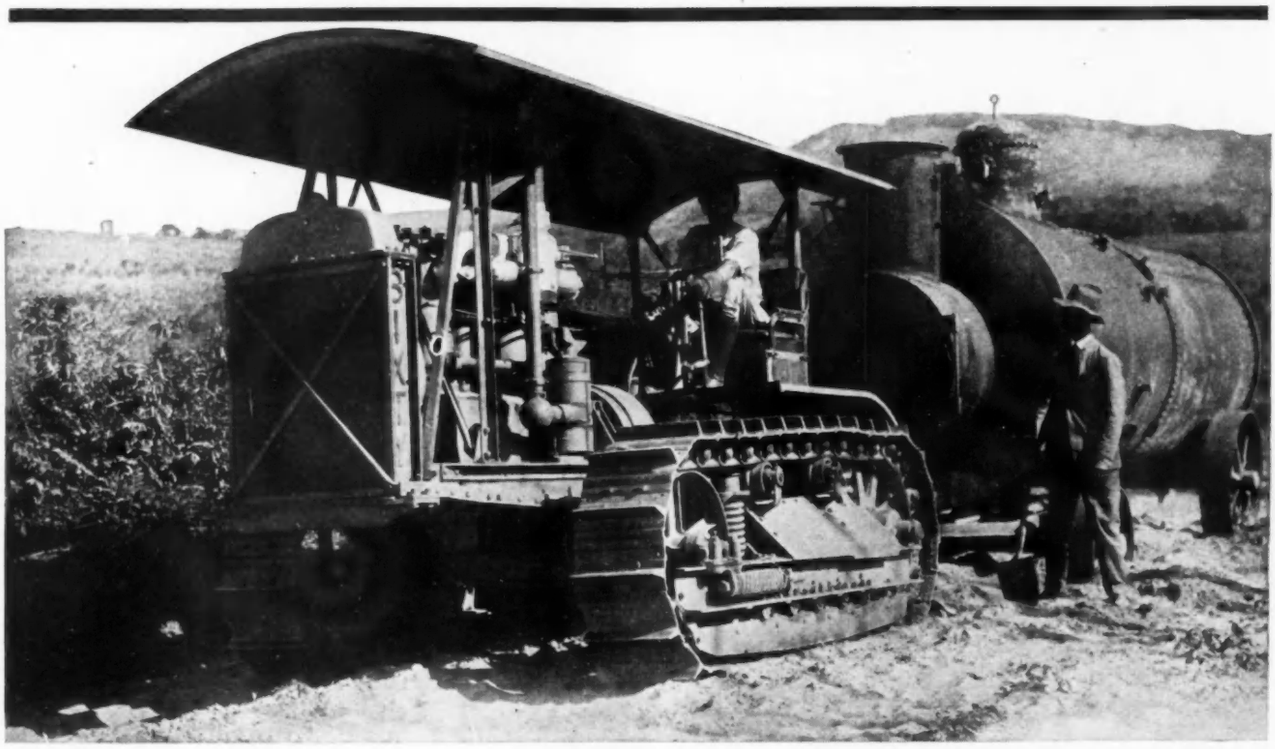

WHEN this 16-ton boiler was first delivered to an oil-prospecting location in Sao Paulo, Brazil, it took 40 oxen three months to make the move. Big crews were necessary—trains of supplies—$1800 (gold) of expense.

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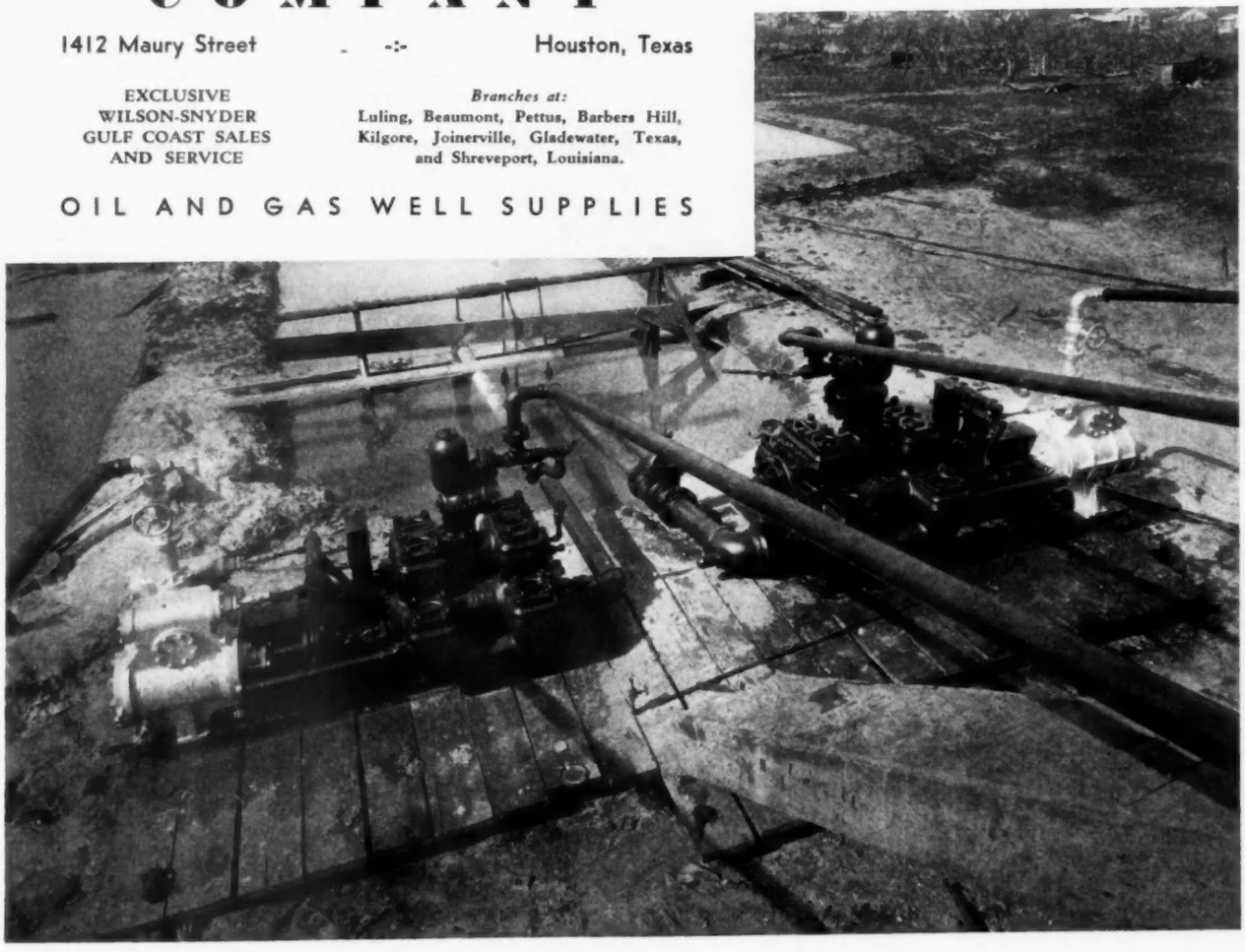
OIL AND GAS WELL SUPPLIES



Haphazard Lubrication

Is Expensive

There was a time when very little attention was given to the lubrication of drilling rigs. Most any oil and grease that happened to be available was considered good enough.

Years of extensive drilling experience has taught the Humble Oil & Refining Company a great deal about rig lubrication. We have found a direct relationship between good lubrication and drilling efficiency. These same high class lubricants will lower your drilling cost and help you avoid expensive haphazard lubrication.

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Humble Oil & Refining Company
HOUSTON, TEXAS

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S. W. ROBINSON
Editor

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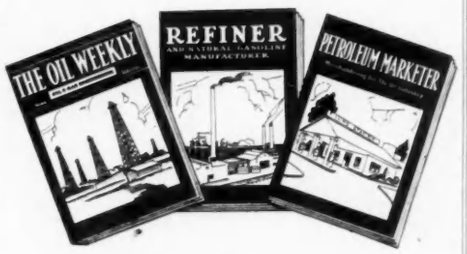

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DRAVO CONTRACTING COMPANY PUTS IT'S *OK* *on* TONCAN IRON PIPE

The illustration shows a 10,000 barrel capacity oil barge of standardized design built by Dravo Contracting Company, Pittsburgh, Pa. The hull is 175 feet long, 40 feet wide and eleven feet six inches deep. These barges are designed for seaboard and harbor service, transporting fuel oil, refined oil or gasoline from refineries to consuming ports.

Toncan Iron pipe is used in 4, 6 and 8-inch sizes for cargo piping, extending the full length of the barge. Extra heavy Toncan Iron 2-inch Pipe is used for steam smothering and fire prevention lines. All cargo heating coils are also of Toncan.

Toncan Iron Pipe was selected after a thorough investigation proved the high rust resistance of this alloy of refined iron, copper and molybdenum in service where the combined action of moisture, salt and sulphur would quickly play havoc with ordinary ferrous pipe.

It will pay you to investigate the merits of Toncan Iron. Write for the 64-page book, "Pipe for Permanence."

REPUBLIC STEEL CORPORATION

GENERAL OFFICES YOUNGSTOWN, OHIO

VOLUME 65, No. 9 May 16, 1932

THE OIL WEEKLY

FOR OIL AND GAS PRODUCTION AND
PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

The Changing Panorama

"Hold everything" seems to be the slogan of the oil business at this time, although there is disposition in some quarters to further force the issue on price increases. Price levels approximate what all interested were striving for during the darker days of the last six months. Both crude and refined prices are at levels which permit a better showing on the earnings statements if not a comfortable profit, as with some of the more efficient units. Higher prices have worked the virtual elimination of disturbing elements in the refining business, and the more substantial units are gauging the production of gasoline by what the market will absorb. Small quantities of gasoline which appear as possible disturbers of the tendency of that market to stay firm, are finding buyers despite disposition of jobbers to restrict their buying.

California Situation Not Hopeless

Californians, despite the showing on the Sharkey Bill, still have ambitions to control production. Leaders in opposition to the bill which was designed to regulate the industry under state supervision, now are said to be coming forward with proposals that the regulation be by agreement. In the meantime operators have little hope of meeting the proration allowance which is currently missed by more than 65,000 barrels daily. What curtailment is accomplished is done by 18 leading companies who have reduced 58.32 per cent under rated potential, while the rest of the operators have cut production by 25.17 per cent. Two thirds of the gross potential seems to be contributing 92 per cent of the curtailment. Despite unfavorable conditions, permits to drill in California are increasing, and much of the planned work is in wildcat territory.

Substantial increases in the amount of foreign crude oil in storage in the United States are reflected by the late report of the Bureau of Mines, covering March when it is shown that imports were more than a million barrels more than the same period a year ago. Obviously the accumulation results from a rush to get oil in ahead of the tariff which, on and off, appears will be a part of the revenue bill if and when.

The Oil Man's Calendar

MAY
- 15-17 *National Oil Scouts Association of America, Houston, Texas.*
- 16-20 *U. S. Chamber of Commerce (Special Oil Group Session), San Francisco, California.*
- 17-19 *Natural Gasoline Association of America, Tulsa, Oklahoma.*
- 20-21 *Virginia Oil Men's Association, Staunton, Virginia.*

JUNE
- 1- 3 *American Petroleum Institute Mid-Year Divisional Meetings, Tulsa, Oklahoma.*
- 6- 9 *National Association of Purchasing Agents, Detroit, Michigan.*
- 8-11 *A.S.M.E., Fifth National Oil and Gas Power Meeting, State College, Pennsylvania.*
- 20-24 *American Society for Testing Materials, Atlantic City, New Jersey.*

AUG.
- 23-26 *Pacific Coast Gas Association, Spokane, Washington.*

SEPT.
- 14-16 *National Petroleum Association, Atlantic City, New Jersey.*
- 15-17 *American Trade Association Executives, Atlantic City, New Jersey.*

OCT.
- 10-14 *American Gas Association, Atlantic City, New Jersey.*

NOV.
- 15-17 *American Petroleum Institute (Annual), Houston, Texas.*

DEC.
- *Rocky Mountain Oil & Gas Association, Great Falls, Montana.*

Results Doubtful *From Meeting Of* World-Wide Oil Leaders

NEW YORK, MAY 13.

LEADERS of the oil industry of the world are assembled in conference at New York to discuss the possibility of co-operative action looking toward the rationalization and stabilization of export trade in petroleum. While the conference was called by Charles E. Arnott, president of Socony-Vacuum Corporation, it is such a meeting as was twice suggested by J. B. Aug. Kessler, joint managing director of the Royal Dutch-Shell companies, whose revised plan for the stabilization of the petroleum trade of the world was published in THE OIL WEEKLY of March 11, 1932.

European leaders attending the conference include Konstantin Riabovol, chairman of the directorate of Soyuzneftexport (Soviet Oil Export Syndicate), Phillip Rabinovich, member of the collegium of the Commissariat for Foreign Trade (U. S. S. R.), and R. N. Fridman, vice chairman of Russian Oil Products, Ltd., Soviet marketing organization in the United Kingdom. The Royal Dutch-Shell combine is represented by Mr. Kessler, and the local executive staff of Standard Oil Company of New Jersey, is augmented by H. Riedemann, a European director of the company. The Anglo-Persian-Burmah Oil-Iraq Petroleum group are represented by William Fraser, deputy chairman of Anglo-Persian Oil Company, Ltd., and Robert I. Watson, managing director of Burmah Oil Company, Ltd., who also is a director of Anglo-Persian Oil Company, Ltd., Burmah-Shell Oil Storage and Distributing Company, Steaua Romana Societe Anonyme pour l'Industrie du Petrole, and Iraq Petroleum Company, Ltd.

Policy of Reticence

Barring a subtle exchange between Mr. Arnott and "Comrade" Riabovol in initial statements relative to the conference, the delegates in general have maintained a policy of reticence, explaining that, in all likelihood, no important decisions would be reached until sometime next week. Mr. Arnott explained that:

"For some years past Socony-Vacuum Corporation, operating in foreign markets, has made purchases from time to time of Russion oil products. The Russians have additional supplies available for export, with the result that a considerable duplication of distributing facilities has taken place, resulting in a general demoralization of the foreign markets outside of the United States; and a meeting will be held for the purpose of determining whether or not some understanding may be reached with a view to correcting this general demoralization."

M. Riabovol retorted that:

"Since our arrival in New York on May 3 upon the invitation of the heads of the Socony-Vacuum Corporation, many statements have appeared in the press regarding the aims of the oil parleys which are to take place here in the middle of May. Some of these statements are so worded that they create the impression that Soviet oil exports are responsible for the demoralization of the world oil market. One gets the impression that the principal aim of the coming meeting is to discuss the question of Soviet oil only.

Soviet Not All to Blame

"We find it necessary to state that the demoralization of the oil market cannot be due to the role played in the world market by Soviet oil products inasmuch as Soviet exports of oil constitute only about 10 per cent of the entire world exports. The fact is that the oil business is disorganized in all markets, including those where Soviet oil does not enter at all. Also, there is ample evidence to prove that the British oil market has been disorganized in spite of the acknowledged fact that the Soviet oil marketing organization has adhered strictly to the letter of its agreement with the world oil companies concluded in 1929.

"Very little is said in the various statements regarding the general world economic situation which has resulted in a catastrophic drop in the prices of almost all world commodities, including oil.

"Nothing is mentioned in any of the statements regarding products from Rumania and some other countries which, as is well known, are being sold in the world market at prices below those of Soviet oil products.

"We wish to make it very clear that we understand that the aim of the oil meeting is to discuss the entire oil export situation and that it is not a meeting to discuss Soviet oil exclusively. Soyuzneftexport is not only willing but anxious to cooperate in measures which promise to improve the condition of the world oil markets."

The impression prevails in New York that the Soviet representatives have been called on the carpet to hear the terms of a new agreement which will be offered to them as a basis for cooperation in future, following the expiration on March 31, 1932, of an agreement signed in London on February 27, 1929, by Russian Oil Products Company, Ltd., (Soviet Naphtha Syndicate), and Anglo-American Company acting for Anglo-Persian Oil Company, Ltd., the Royal Dutch-Shell Group, and Anglo-American Oil Company, Ltd., now controlled by Standard Oil Company of (New Jersey). Under the terms of this extinct contract, the British and American participants were said to have agreed on the stabilization of prices and to have guaranteed the acceptance on British markets of certain annual volumes of Russian oil products.

The present situation is very different from what it was in 1929; and the position of the competitors of Soviet exporting agencies is said to be somewhat stronger than it was three years ago. The Royal Dutch-Shell Group is amply supplied with oil which can be produced at low cost in Venezuela, Roumania, the United States, and the Dutch East Indies. Anglo-Persian has an abundant surplus at tidewater on the Persian Gulf; and Burmah Oil Company has adequate reserves in Burma for the satisfaction of the demands of the Indian markets. Standard Oil Company of New Jersey, has enormous reserves of low-cost oil at Gulf Coast ports; and the completion of the Pan-American and Standard Oil Company of California mergers now in train will supply that group with cheap oil on both oceans. In addition, the entire group of competitors of the Soviet agencies in European and Asiatic markets will be served with additional supplies from a new and fabulously fertile source upon completion of the Iraq pipe line about two years hence.

It was said that the initial rapprochment between Standard Oil Company of New York and Vacuum Oil Company and the Soviet Naphtha Syndicate was dictated by the pressure of com-

(*Continued on page 60*)

Natural Gas *Industry Has* Turned *the* Corner

Spirit of optimism prevails at Tulsa gathering of more than 800

FLOYD SWINDELL
Staff Representative

TULSA, MAY 13.

"THE natural gas industry has turned the corner;" "Public utility companies, which are the distributing and marketing end of our industry, have long been the victims of excessive, discriminatory, and injurious taxes;" "The need of American business, and particularly our business, is that those responsible for its policies shall have a deep consciousness of the fact that we are public servants." Thus spoke several of the outstanding men who attended the convention of the Natural Gas Department, American Gas Association, held here May 9 to 11. The registration of more than 500 represented an actual attendance total of approximately 800, including representatives from all portions of the United States.

Taxation and the prohibition of utility merchandizing were subjects which crept into practically every address or discussion outside of the technical portion of the program. E. B. Reeser, president of the Barnsdall Oil Corporation, speaking on the subject, "What is the Condition of the Industry," reviewed conditions from the beginning of the industry and pointed out that American business has weathered many financial depressions and has always stepped on to better conditions.

The convention opened Monday afternoon with opening remarks by Major T. J. Strickler, chairman of the Natural Gas Department, and addresses of welcome by a representative of the Mayor of Tulsa and E. A. Olsen, president of the Oklahoma Natural Gas Corporation who headed the committee on general arrangements. The program which followed was one of which all of those connected with arrangements may well be proud. R. W. Gallagher, president of the American Gas Association, gave three major classes of problems which confront the natural gas industry; first, "Improved and increased use of natural gas;" second, "The political and commercial problems affecting its satisfactory distribution and sale;" third, "The financial aspects of the industry." In concluding a very interesting address Mr. Gallagher said, "As our business and our future depend upon the service which we can render the public, so our security and welfare depend upon our public candor. Let us, therefore, in good faith and by real action reduce our tax problems to their lowest terms and keep them in these simple terms before our customers."

A report of the main technical and research committee reveals that many important and interesting problems are being worked on by members of the association and that branch of the industry will not fall behind due to any laxity in the field of research.

An outstanding feature of the research program was reported by John S. Ivy, United Gas Public Service Company, who represented N. C. McGowen, chairman of the sub-committee on gas well deliveries and by E. L. Rawlins, gas engineer for the United States Bureau of Mines, Bartlesville. The primary object of this phase of the work was to determine whether or not the consideration of gas well capacities should be changed from those of open flow to that of delivery capacity. A total of 656 tests have been made on 489 gas wells located in Louisiana, Ohio, Oklahoma, Texas, and the Rocky Mountain area. Results of the tests have been very successful, only 0.8 per cent of the results having been found valueless.

Featuring the closing session was an interesting talk and motion picture by M. M. Kinley who recently conquered Roumania's famous Morini well which had defied efforts of control for more than two years and eight months.

This convention probably was more representative of conventions of former years when the industry was prosperous, than have been other conventions of the past year. Entertainment features included a barbecue and dance, a bridge luncheon for the visiting ladies, and an excellent cabaret dinner and dance as well as numerous parties not listed officially.

How Natural Gas Men *View the* Present Situation

Highlights from Papers Presented at Tulsa

TULSA, MAY 13.

PROBLEMS that demand solution by the gas industry were placed in three divisions by R. W. Gallagher, president of the American Gas Association, as follows: Improved and increased use of natural gas; political and commercial problems affecting the satisfactory distribution and sale; the financial aspects of the industry. The status of these was presented as follows:

"The third I will dismiss first, because if the other phases of a business are correct, capital will, in ordinary times, flow into it in a perfectly natural manner . . .

"It is necessary, therefore, that the natural gas industry be aggressive in developing markets which its engineering brings within reach of its pipe lines. It must be zealous, also, in resisting the menacing dangers of excessive and unfair taxation and of unwarranted and political interference.

"The present depression has caused a tremendous amount of almost universal thinking along economic lines. It would be wrong if we tried to ignore the terms of this new knowledge which has been gained in so hard and so convincing a school as that which we have all been attending here of late.

"We know, among other things, that every industry and every business has had added to it another test which the public will never forget or fail to apply. This test is the ability of an industry to sustain a community which depends upon it both for service and employment, and for the going value of uninterrupted activity. . ."

After discussing the adjustments that have been made by corporations and individuals during the depression, he asked:

"What has government done about the readjustments necessary? It does no good to call names or denounce. You know, and we all know that our political will try and keep on trying to flood their already over-loaded budg-

ets with taxes, always more taxes. In very temperate and careful terms I intend to state the plain fact that public utility companies, which are the distributing and marketing end of our industry, have long been the victims of excessive, discriminatory and injurious taxes. We all know this. We all know that the end of this tax squeezing is not in sight."

The remedy for this condition he gave as follows:

"Our job then, as I see it, is to inform our customers by taking these hidden taxes out from behind their concealment. We must restore tax-consciousness to the people who are being hoodwinked and deceived. By doing so we place responsibility where it belongs, which is on the shoulders of the individual legislators. We remove from him, his excuse for indirect and blind tax increases—and maybe he will thank us for it. Anyway, we owe this responsibility to our customers."

Loebell Sees Need For Progress in Appliances

NECESSITY for the development of satisfactory applances for the use of gas was stressed by Henry O. Loebell, Combustion Utilities Corporation, New York, whose subject was "The Development and Need for New Uses for Gas." He predicated his conclusion on the fact that the value of gas service is determined strictly by the performance of the appliance.

In the past the development of appliances has been left largely with the manufacturers, a policy with some advantages but with some disadvantages as well. For instance electrical refrigeration is in the lead in refrigeration because gas burning home refrigeration units were last to come on the market. He gave other instances of gas appliances coming second in use, although more economical and more satisfactory service could be had from gas, solely because the gas burning appliances have been developed later than other types.

Progress in developing appliances through the support of the American Gas Association was cited in the status of the Silica-Gel system, sponsored by the association and developed by the Silica-Gel Company. An appliance capable of cooling eight rooms of a home is due to come on the market shortly. Other developments are a machine that combines a refrigerator with a water circuit for cooling; improvements in the field of house heating; industrial furnace improvements; a process to have influence in the manufacture of glass; kitchen range improvements which will have inclosed burners, prevent odors and maintain lower room temperature.

An energy unit to use gas is also under development. It will combine heating and cooling for the home, heat for cooking, water heating, refrigeration as well as incineration.

Other industrial fields are in the steel industry, the cement industry and the glass industry. The prospects were summed up as follows:

"It therefore appears that the future is promising.

"The gas range can be brought back to its diminant position where the invasion of electricity can be ignored.

"The energy unit offers a new market with increased volume at lower rates and reduced capital expenditure.

"The industrial field presents countless opportunities for new loads and higher prices.

"The only question involved is—who is to develop these?

Since the burning of gas is not a patentable idea, any development of appliances by a manufacturer is due to be copied. This denies the manufacturer profit for any source other than manufacture of the appliance and therefore gives him no incentive for appliance development. Under these conditions the speaker brought the necessity for appliance development within the realm of the association.

Reeser Says Industry Through Worst

AFTER reviewing the business recessions of almost a century, E. B. Reeser, president of Barnsdall Oil Corporation, Tulsa, made the prediction that the natural gas industry had passed through its worst period. He cited the fact that total revenue for February, 1932, was only seven per cent less than for February, 1931. In view of the mild weather of 1932 he said that this record was significant.

His recommendations for the future direction of the natural gasoline included:

A more conservative and careful expansion of facilities.

That business men and intelligent voters cease to stand by and let professional politicans dominate local affairs.

That recognition be taken of the fact that the production of natural gas and crude oil "is so closely associated that anything of benefit to one is helpful to the other."

Consideration of the Sherman antitrust laws, on which he said:

"The laws have been construed on the assumption that free and unrestrained competition will create a fair price for all. As a matter of fact, free competition has forced prices below the cost of production and is rapidly eliminating competition via the bankruptcy route. The natural gas and petroleum industries are especially interested in the correction of these laws, $15,000,000,000 is at stake. Is your association doing its part on this subject."

Caster Emphasizes Tax Hazards

HAZARDS placed before the business of distributing gas by rate regulation and tax legislation were discussed by H. O. Caster, Henry L. Doherty & Company, New York.

One of these is the tendency to pass statutes, which prevent a utility company from selling appliances. Laws of this nature were passed in Oklahoma and Kansas and the writer predicted that similar bills would come before other legislatures in the future.

Indirect legislation consists in changes in laws under which public service and public service commissions of the states operate.

Attempts also were made to require utility companies to use the valuation for taxation identical with that for rate making. The speaker gave it as his opinion that such laws are unconstitutional.

Severance laws, increasing taxes, restrictions upon holding companies, agitation for municipal ownership of utilities and federal legislation were other obstacles facing the natural gas industry.

Mr. Caster brought out that the distribution of natural gas is the selling of a service instead of only a commodity.

Olsen Talks on Additional Markets

EXAMPLES of gaining consumption to replace lost load were given by E. A. Olson, president of Oklahoma Natural Gas Corporation. In the period July 1, 1931, to April 30, 1932, this Company produced a potential load which will prove annual revenue in excess of $700,000.

"The business is still there, though much of it is dormant at the moment," he added concerning the huge investment made in natural gas properties during 1930 and 1931.

He said that the opportunity for developing consumption through additional home use of natural gas was never better. Oklahoma is one state which does not allow utility companies to sell appliances, still the Oklahoma

Natural Gas Corporation has provided a plan of co-operation with appliance merchants.

His opinion is that retail merchants who sought the law to prevent appliance sales by utilities are changing about, since they realize that the advertising done by the utility companies was of value in stimulating the sale of appliances by all dealers.

Cooperation Urged By Owens

AS a solution to the question of the sale of appliances by utility companies J. F. Owens, president, Oklahoma Gas & Electric Company, Oklahoma City, suggested closer co-operation of utility organizations with organizations which represent retail merchants as well as individual co-operation between utility concerns and retail merchants.

He cited examples of the benefits that have followed discussion of this subject in the deliberations of the associations of several organizations of retail merchants. He said:

"On our part there should be a recognition of the fact that the retailer has played, and should continue to play, a very important part in the economic life of the nation. . . We should further recognize the fact that we desire and need his assistance in doing the job that has been delegated to us—that of rendering the fullest possible service to the homes of the nation.

"I believe there should be set up in every community in the nation a forum wherein there can be exchange of ideas and wherein there may be a frank discussion of all the problems involved in this whole question of merchandising."

He recommended also a return to the basic principles of representative government by removal of the commissions and bureau which have been set up for the supervision of private business and the conduct of individuals.

Technical Activity *of* *Natural Gas Men* Widespread

TULSA, May 13.

PAPERS on the program of the Natural Gas Department's meeting here embraced a variety of subjects, and representing the work of men dealing at first hand with the involved technical problems, were of noteworthy value.

"Large Diameter Transmission Lines" was the title of a paper by Elmer F. Schmidt, Lone Star Gas Company, Dallas, Texas, in which were presented interesting facts and figures covering the extensive natural gas pipe line building and expansion programs carried out during the past several years. Despite general adverse business conditions, it was stated, 'During 1930 this expansion rose to the tremendous amount of $230,000,000, and in 1931 to nearly $350,000,000," the figures repsenting only costs of pipe lines, compressor stations and accessory transportation equipment, and not including leasing, geological or field development work, or marketing or research activities. Industries and domestic consumers, likewise, spent large sums of money in connection with that expansion, it was pointed out, for new machinery installations, new appliances, and so forth. Improvements in pipe manufacture and pipe line building were recounted, and information was given on corrosion-resisting pipe line coatings, river crossing methods, compressor stations, and telephone facilities along gas lines.

Some highly interesting information was presented in the paper on "Recent Deep Drilling and Large Pipe Line Construction Practice in the East," covering late developments in eastern United States, and written by H. A. Wallace, president Charleston group, Columbia Gas & Electric Corporation, Charleston, West Virginia. In that portion of the paper dealing with present drilling practices in that region, there were included the interesting details on the drilling of United Fuel Gas Company's J. W. Hinzman No. 4053, Roane County, West Virginia, deepest well in the world drilled with cable tools, with fishing job in progress at 9104 feet. In discussing present pipe line construction methods in the Eastern States, the author pointed out certain unfavorable conditions, such as rugged topography, which make it difficult in some instances for the East to employ advanced methods in pipe line construction developed recently in the more level Southwest or Central West States. A discussion was given of the building of Columbia Gas & Electric Corporation's 460-mile 20-inch carrier, which was described as having been completed last year as the longest large gas line yet constructed in eastern territory; that construction work being used to illunstrate modern pipe line construction practices in the region.

A technical paper on "Water Vapor in Natural Gas," represented a contribution to the program by C. H. M. Burnham. The paper gives data in connection with preventing condensation of water vapor in natural gas pipe lines, since such condensation results in trouble and losses, including freezing of the water and consequent interruptions in service, reduction of line capacity due to accumulations of water in low places, and waste incidental to blowing out condensate from drips. In this connection there is a discussion of how many drips should be used on a pipe line, and where they should be

Part of the 800 natural gas men at the annual meeting of the Natural Gas Department of the American Gas Association which closed its meeting at Tulsa Thursday of last week

placed. Following the treatment from the trunk pipe line standpoint, the matter is further considered, also from the viewpoint of the gas distribution engineer.

The technical paper by W. W. Frymoyer, the Foxboro Company, Foxboro, Massachusetts, deals with the benefits of injecting moisture into dry natural gas which is being distributed in pipe lines formerly used for manufactured gas. The title of the paper is "Problems Met in Saturation Measurement and Control in Gas Lines." Since the dry gas absorbs moisture and condensible hydrocarbons which have accumulated in the pipe line system while handling the manufactured gas, it results in leaky joints and other troubles. The purpose of water addition to a dry gas is to prevent such leaks. The problems arising in connection with adding the moisture are given technical discussion, and reasons for certain instances of unsuccessful application of the method are cited.

State Claims Valuable East Texas Field Tract

Austin, Texas.—The State went to trial May 10 to establish vacancy on approximately 63 acres of land in Rusk County, which Attorney General Allred claims is school land.

In this suit, styled State of Texas vs. H. L. Hunt, Judge Matthews of Austin has been appointed, previously, as receiver on petition of the state. One well has been drilled on the land, which is adjacent to the Lindley survey, and another on a 19 acre tract claimed by Hunt.

Hunt claims that the land is a portion of an old survey made in the days of the Republic of Texas, and that for this reason no vacancy exists.

The tract is in the heart of the producing area, and the state hopes to recover a small fortune for the benefit of the school fund.

Find Way to Extract Oil From Tar Sands

Edmonton, Alta.—The Research Council of Alberta reports a discovery which will cheapen the extraction of oil or bitumen from McMurray, Alberta, tar sands. For some years, according to the Natural Resources Department of the Canadian National Railways, researches have been in progress to find methods of separating oil from the bituminous sands which occupy an extensive field in northern Alberta.

Imports *Boost* Stocks; *Domestic* Demand *Exceeds* Supply

H. J. STRUTH
Staff Economist

THE rush to bring foreign oil into the United States, in anticipation of the prospective tariff, manifested itself in a sharp increase in stocks during March. Bureau of Mines' figures for that month show that crude oil imports amounted to 4,840,000 barrels, against 3,715,000 barrels a year ago. While total stocks of crude as of March 31 showed an increase of 2,466,000 barrels over the preceding month, details show that stocks of foreign oil actually increased during March to the extent of 3,190,000 barrels, while domestic crude stocks were drawn upon to the extent of about 724,000 barrels. Subsequent reports are expected to show a further gain in stocks of foreign crude, since weekly data indicates a continued increase in importation.

The barometer chart shows that, despite the unsatisfactory situation created by mounting stocks of foreign oil, there were numerous signs of betterment in the industry's statistical position. The weighted index of supply factors dropped below last year to the extent of about 3.8 per cent, while demand rose about four per cent above last year. Yet, it will be noted that domestic gasoline consumption was under last year by 5.1 per cent, while the cumulative total shows a net decline under the same period of last year of 2.7 per cent. The decline in domestic gasoline consumption in March was offset to some extent, however, by an upturn in foreign demand, which showed an increase over the same month of last year of 3.1 per cent. Nevertheless, the cumulative total of foreign gasoline shipments shows a decline under last year of 18.7 per cent.

Particularly significant in the March figures is the decided tendency to prevent overproduction of both crude and refined products. It will be noted that production of crude was maintained at a rate of about 3.2 per cent under the same period of last year, while refinery runs and gasoline production show declines of 6.9 per cent and 8.2 per cent, respectively. While there has been a steady increase in cracked gasoline production, the figures for March show a drop in total gasoline recovery from crude. The rate of recovery in March was but 43.6 per cent compared with 46 per cent in February. This is perhaps only temporary, however, since it is evident that there was more blending in March. In fact, installation of cracking units is showing a steady increase in many refining areas and is bound to result in further boosting the recovery of gasoline from crude. The cumulative percentage recovery figure shows an increase over last year of 2.4 per cent, with the average for the first quarter at 44.0 per cent.

Crude Stocks Down

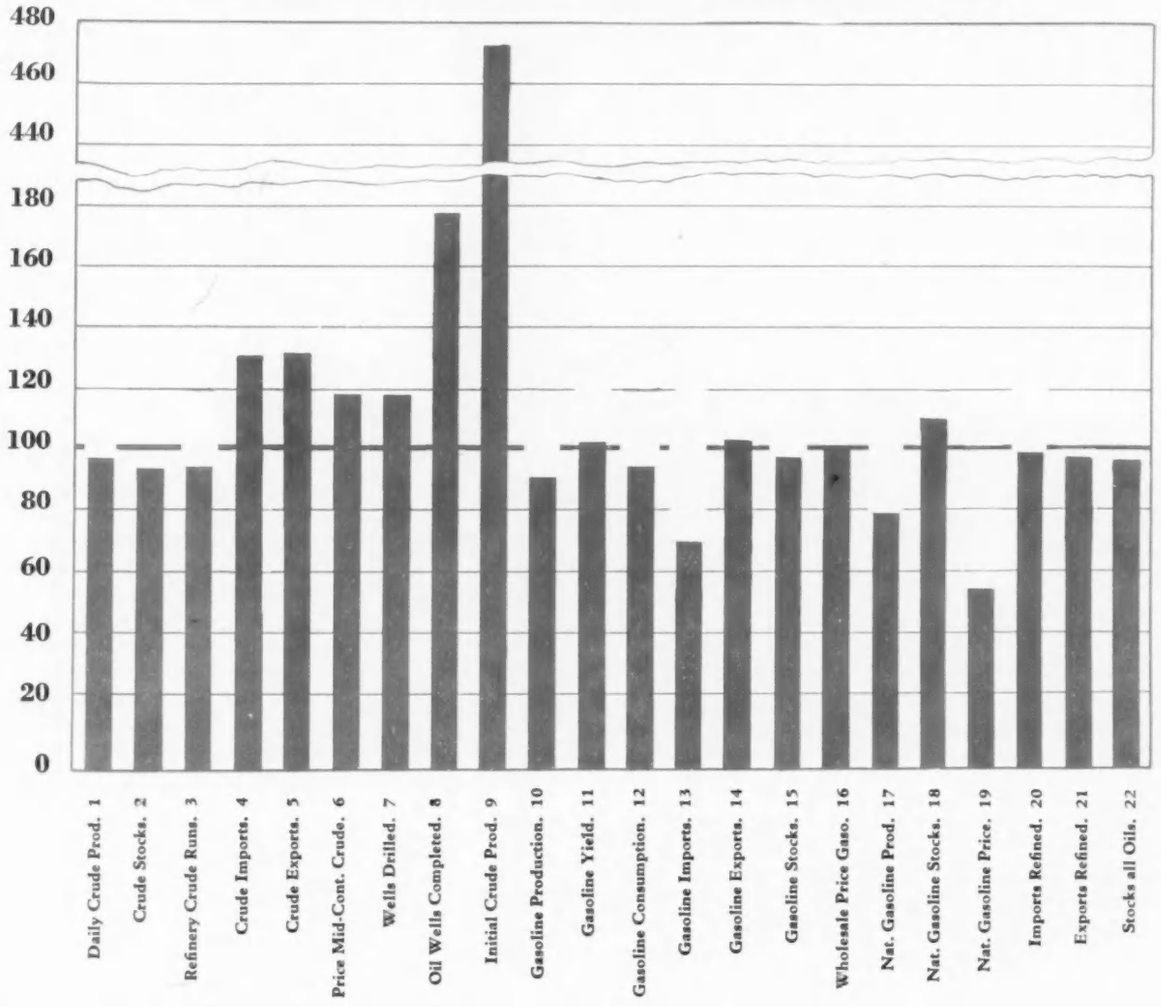
Crude stocks are now below last year by about 7.4 per cent, while refined oil stocks have shown a drop under last year's total of 3,009,000 barrels. Gasoline stocks at refineries are below last year's stored supply to the extent of 2.4 per cent. Natural gasoline in storage has shown an increase over last year of 8.9 per cent, despite the fact that production has been reduced under last year to the extent of 21 per cent. This is significant of the trend toward reduced demand for natural gasoline by refineries and emphasizes the effect of enlarged cracking facilities. Stabilizers have greatly facilitated the recovery and utilization of still gas for the production of high gravity blended motor fuel, to the exclusion of natural gasoline. Thus, while cracking operations are on the increase throughout the United States, the demand for natural gasoline is falling off.

Prices

Prices of crude and refined products were slightly improved in March, and made a more favorable showing compared with a year ago. Crude oil prices were 18.4 per cent above the preceding year while gasoline prices were at about the same level. Natural gasoline prices, however, showed a material slump in comparison with the preceding year, although slightly above the level of February. April figures will reveal a materially improved price situation, reflecting the advance in crude and gasoline prices which began on April 1. The weighted index of prices for March was somewhat above the level prevailing in February having attained a point only 9.2 per cent below last year, whereas the February price index was 35.3 per cent under the preceding year. Recent improvement in the industry's price structure will show up decidedly favorable in comparison with last year, since lowest prices were in force at this time a year ago.

Total cumulative gasoline consumption at the close of March was 91,114,000 barrels, against 94,711,000 barrels for the first three months of last year. This represents a decline in total gasoline consumption of 3.8 per cent.

Salient Oil Industry Factors for March, 1932, Expressed in Per Cent of March, 1931. Heavy Line (100) Represents March, 1931



Oil Industry Barometer—March, 1932

Index of Salient Factors—Current and Cumulative

	Factors—	March			3 Months Ending March 31		
		1931	1932	Index (1)	1931	1932	Index (1)
1	Daily Average Crude Production (Thous. Bbls.)	2,239	2,167	96.8	2,175	2,160	99.3
2	Total Crude Stocks (Thous. Bbls.)	401,570	371,854	92.6	401,570	371,854	92.6
3	Refinery Crude Runs (Thous. Bbls.)	73,596	68,502	93.1	209,172	201,031	96.1
4	Crude Imports (Thous. Bbls.)	3,715	4,840	130.2	12,857	11,595	90.1
5	Crude Exports (Thous. Bbls.)	1,586	2,090	131.7	5,215	5,579	106.9
6	Posted Price 36 Gravity Mid-Cont. Crude (Per Bbl.)(2)	$.65	$.77	118.4	$.84	$.77	91.6
7	Wells Drilled	819	963	117.5	2,790	2,878	103.1
8	Oil Wells Completed	347	615	177.2	1,214	1,891	155.7
9	Initial Crude Production (Thous. Bbls.)	705	3,329	472.1	1,961	9,883	503.9
10	Gasoline Production (Thous. Bbls.)	35,246	32,349	91.8	99,282	97,386	98.1
11	Gasoline Yield—Average Per Cent of Crude (4)	42.9	43.6	101.6	42.2	44.6	105.6
12	Domestic Gasoline Consumption (Thous. Bbls.)	31,037	29,451	94.9	83,256	80,991	97.3
13	Gasoline Imports (Thous. Bbls.)	1,607	1,127	70.1	3,671	3,546	96.5
14	Gasoline Exports (Thous. Bbls.)	2,946	3,039	103.1	11,455	9,310	81.3
15	Gasoline Stocks at Refineries (Thous. Bbls.)	48,340	47,220	97.6	48,340	47,220	97.6
16	Refinery Price U. S. Motor Gaso.—Group 3 (Cents)(2)	3½	3½	100.0	3⅜	3⅛	80.6
17	Natural Gasoline Production, (Thous. Bbls.)	4,048	3,198	79.0	11,819	9,688	81.9
18	Natural Gasoline Stocks (Thous. Bbls.)	3,699	4,030	108.9	3,699	4,030	108.9
19	Price Grade "A" Natural Gasoline, Group 3 (Cents)(3)	3	1⅝	54.1	3⅜	1¾	51.8
20	Imports of All Refined Oils (Thous. Bbls.)	4,065	4,028	99.0	10,583	11,114	105.0
21	Exports of All Refined Oils (Thous. Bbls.)	7,241	7,051	97.3	25,324	19,973	78.9
22	Total Stocks of All Oils (Thous. Bbls)	656,833	633,107	96.4	656,833	633,107	96.4
	Weighted Index of Supply	....	....	96.2	....	....	96.6
	Weighted Index of Demand	....	....	104.0	....	....	92.1
	Weighted Index of Price	....	....	90.8	....	....	74.7

(1)—Last Year—100.
(2)—Weighted Average. (3)—Monthly Average.
(4)—Straight run and cracked gasoline only.

Older Areas Lose Outlets

As Buyers Adjust to Higher Prices

H. H. KING
Staff Representative

FORT WORTH, TEXAS, MAY 13.

ADJUSTMENT of crude purchases by major companies in Texas so as to maintain the 15-cent price advance placed into effect between April 1 and 11, over the protest of several of the leading buyers, is forcing many operators in the older areas to sacrifice a portion or all of their market outlet. A systematic movement to reduce purchases of crude in the North, West Central and West Texas and the Panhandle districts has been underway for some six weeks. This curbing of runs has been particularly stressed by Humble Oil & Refining Company, Gulf Pipe Line Company and Shell Petroleum Corporation.

This group of buyers are represented in the East Texas field with major holdings, and are also directly, or indirectly affected adversely by the recent delivery of large volumes of imported crude and refined products at Gulf and Atlantic Coast points. Their outside connections in the older fields have been called upon to assume the burden of affording some relief on alleged surplus crude takings within the state.

Areas and individual connections offering the least danger of registering protests under the ratable takings act, or threatening the general market structure with offers of quantities of crude at sacrifice prices have been hit by the curbing of purchases.

The North Texas district may be deprived of a market for about 1800 barrels of stripper production furnished by about 1200 wells in Wichita and Archer Counties as result of Gulf Pipe Line Company having announced its intentions of surrendering the connections under a 30- and 90-day cancellation clause carried in division order. Gulf Pipe Line Company absorbed these connections several months ago, and also the entire output of the deep wells in the Chalk Hill area, Archer County, when The Texas Company and other majors were desirous of reducing their runs. The Chalk Hill connections are to be retained, as they are the most desirable in the district because of having a greater proration allowance per well, thus reducing gathering expense. It is rather doubtful if other majors will come forward with market relief for all these stripper connections as the cancellation orders become effective. A portion will be absorbed by independent refineries in the district who are now beginning to step up their crude runs to stills, while it is possible that some operators will be forced to make price concessions as a means of attracting market outlet with small plant owners.

Black Oil Out

Approximately 500 barrels of old settled shallow production in Coleman County, West Central Texas, was deprived of pipe line connections and markets when Humble Oil & Refining Company withdrew on May 1. The oil involved is black, although produced in an area that generally yields a green crude. This same oil was cut off by the Prairie Interests about January 1, 1931 and remained off production for slightly more than a year when Humble Oil & Refining Company voluntarily tied into the properties. On the west edge of the district operators in Jones and Fisher Counties have been placed under proration restrictions set out by the Texas Railroad Commission for West Central Texas, amounting to only a well marginal allowance in most instances. Complaints came from operators in the above two counties depending on a single major company, which buys under the marginal allowance because of having a limited market for the oil, that offset lease owners have been selling to independent refiners in trucks without restricting production.

The burden of cutting down production has been heavy on operators in some sections of West Texas within the past month or more. Shell Petroleum Corporation cut its purchases in Howard-Glasscock County from 8000 to 5000 barrels daily effective May 1. Humble Oil & Refining Company had previously made a slight cut in its takings in this area, and also a substantial reduction in takings from the Ector County field, and the Crane-Upton County district. Crudes produced in these areas are the least desirable with major purchasers. The curbing of takings in the Crane-Upton County area by Humble Oil & Refining Company only affected interests having means for storing, marketing, or swapping same elsewhere, and did not work a hardship on the smaller operators, as the allowable for the area has remained intact.

Panhandle Local Market

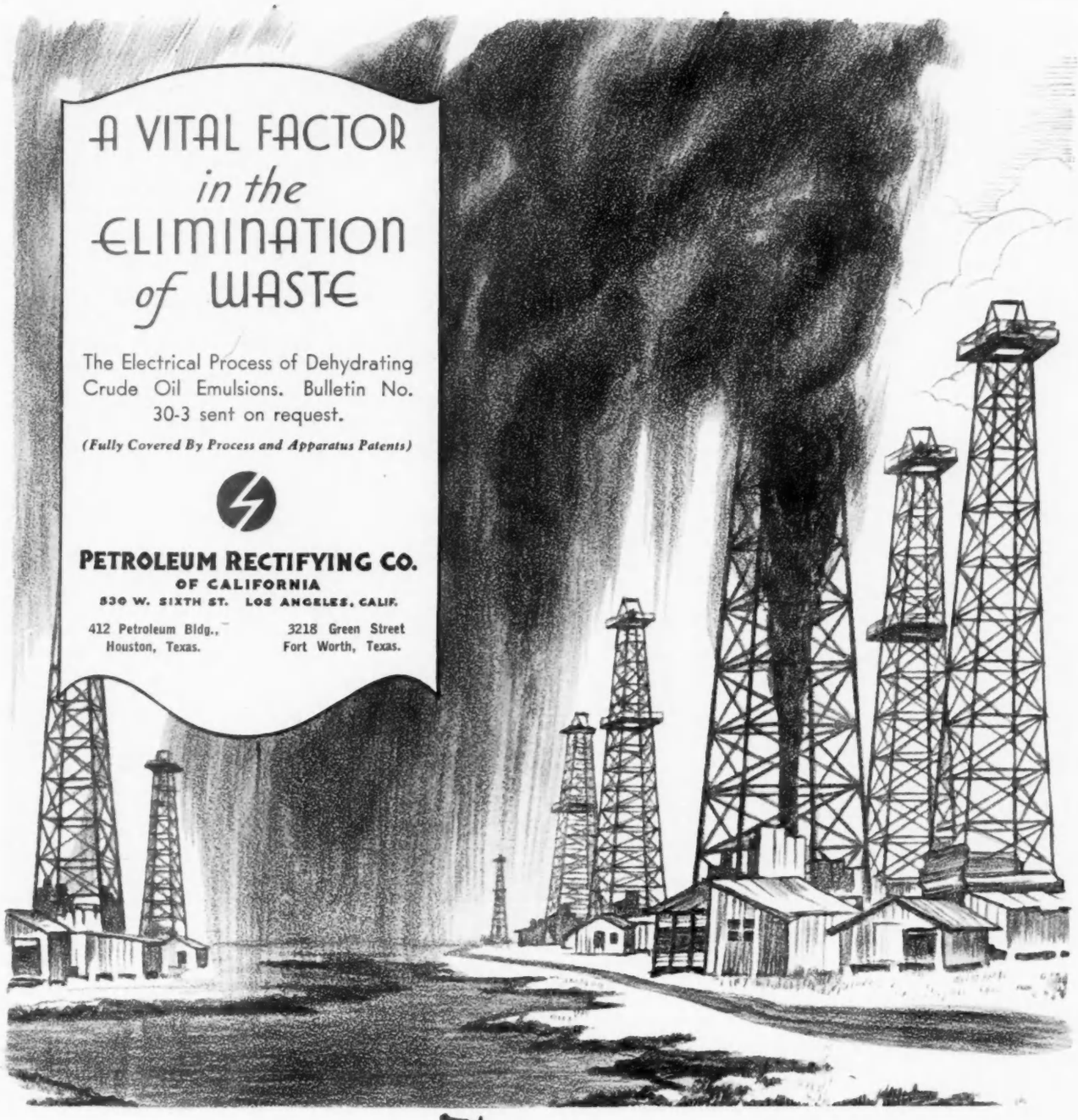
Shunting of crude by majors back on the market in the Texas Panhandle district has been very limited, as a fairly healthy local market for crude is afforded by refineries in the district. It is possible that an actual shortage of crude for these local plants will develop late in the summer should proration remain at the present rate.

In summarizing the efforts of certain majors to lower their oil takings since the posting of the 15-cent price advance, the North Texas district is the only one that may develop a distress price situation through discarded connections offering oil at the best price obtainable. There are local refineries in the district constantly seeking such opportunities, and when promiscuous price cutting on refined products occurs there is danger of majors taking that as a cue to force crude lower.

The East Texas field is now yielding comparatively little crude at less than the 98-cent posted price, and major purchasers are absorbing new connections to maintain their crude receipts near normal level as the well allowable is forced to a smaller quota by completions.

The refining companies located at interior points in Texas have adjusted their affairs to pay present crude prices over the summer months, with an occasional expression originating in marketing circles that another small boost in crude prices may appear by midsummer as a further stimulant to gasoline quotations. Generally speaking all refineries are breaking even, or better with their plant operations, and are firm believers in a strengthening of the tank car gasoline market prices shortly.

A stimulant to tank car prices on gasoline, which averages about 4½ cents per gallon in North and East Texas, is expected to result from the placing of orders for between 300 and 400 cars of the U. S. motor grade product this week by several major companies.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of WASTE
The Electrical Process of Dehydrating Crude Oil Emulsions. Bulletin No. 30-3 sent on request.
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OF CALIFORNIA
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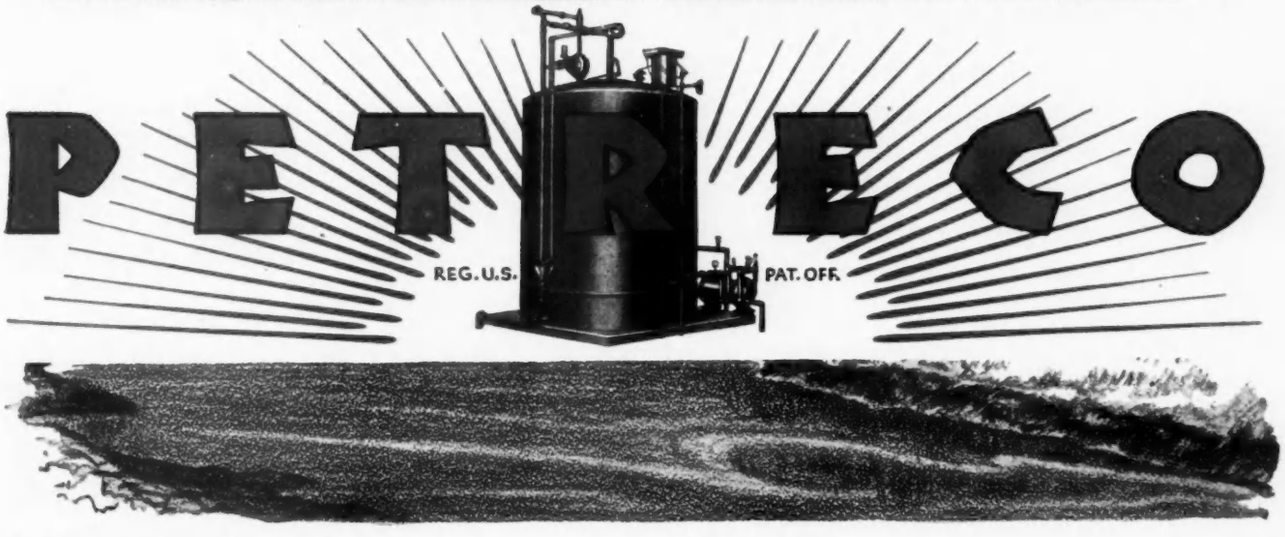
412 Petroleum Bldg., Houston, Texas.
3218 Green Street Fort Worth, Texas.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•

Gasoline has changed the entire aspect of life for the farmer. It pumps his water. It saws his wood. In the tractor it multiplies his man power. In the automobile it brings the city nearer by hours, sometimes days. And in the motor truck it hauls his products to market.

•

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MARKETS ~ STATISTICS

California Decline More Than Offset by Rise in East Texas, so U. S. Output Is Up. Crude and Refined Prices Holding Generally Firm With Weakening Tendencies in Spots.

H. J. STRUTH, ***Staff Economist, Houston, Texas***

California Output Drops; East Texas Up

A FAVORABLE turn in last week's production situation was revealed by a practically unanimous movement in California to cut back production to market requirements. Unfavorable was the persistent upward trend of production in East Texas resulting from unabated drilling in of new wells. Daily average crude production of the United States increased 15,570 barrels. The total was 2,260,544 barrels daily, against 2,244,972 barrels in the preceding week.

Production figures for California at the close of the week showed numerous sharp reductions in output. Last week's figures marked the turn toward lower production schedules, while end-of-the-week data disclosed further declines that will probably bring the state output below the 500,000-barrel mark during the present week. Inglewood reports show that production has been cut back from 31,000 barrels a day to but 20,000 barrels. Kettleman Hills reported a drop of 7000 barrels a day last week and will probably show a further decline during the present week. Long Beach and Playa del Rey operators showed but little change in attitude, although it is believed that the effect of reduced output in other fields of the state will influence reductions there also. Daily average for the state last week was 513,300 barrels, against 524,000 barrels in the preceding week. This amounted to a reduction of 10,700 barrels a day. Next week, with a drop of 11,000 barrels at Inglewood and perhaps additional reductions at Long Beach and Santa Fe Springs, it is possible that state output will have declined to a point under the 500,000-barrel mark.

East Texas production continues to mount as a result of the large crop of new wells being completed there each week. Daily average production last week amounted to about 364,000 barrels or about 32,000 barrels more than the average for the preceding week. Wells on production in the East Texas area now number about 5600 while new wells are being completed at the rate of 138 each week. Under these conditions it appears that the allowable per well will have to be reduced to less than 50 barrels a day and may eventually be cut down to but 25 barrels a day if drilling continues at the present rate. Keeping the field output at or near the daily allowable of 325,000 barrels has become a job of unusual proportions. As development increases, it becomes more and more apparent that the acre-unit would have proven more effective as a method of proration. Under present conditions, it is becoming more and more difficult to maintain the field allowable, since lowering of well allowances seem to have but little effect upon the drilling program.

Texas produced 895,150 barrels a day last week, an increase over the preceding week of 31,309 barrels. Activity in the Panhandle area resulted in a slight increase in production, but this was more than offset by reduced output in West Texas and the North and West Central Texas. Gulf Coast production rose above the allowable to 108,328 barrels a day, from 106,360 barrels in the preceding week. Practically all producing districts of the state were operated at or near proration limits, the only exception being East Texas.

Oklahoma City production was cut back to a point nearer the allowable last week when the daily average droppped to 118,750 barrels, against 134,910 barrels in the preceding week. Seminole showed practically no change with a daily average of 139,825 barrels. State production was reduced to the extent of 10,550 barrels a day. Kansas reported an increase of about 2000 barrels in output of the Ritz-Decker pool, while Voshell production was reduced over 6000 barrels a day. Increases in other sections of the state, however, resulted in a gain of about 2800 barrels a day.

THE OIL WEEKLY
Estimated Daily Average Production
Week Ending

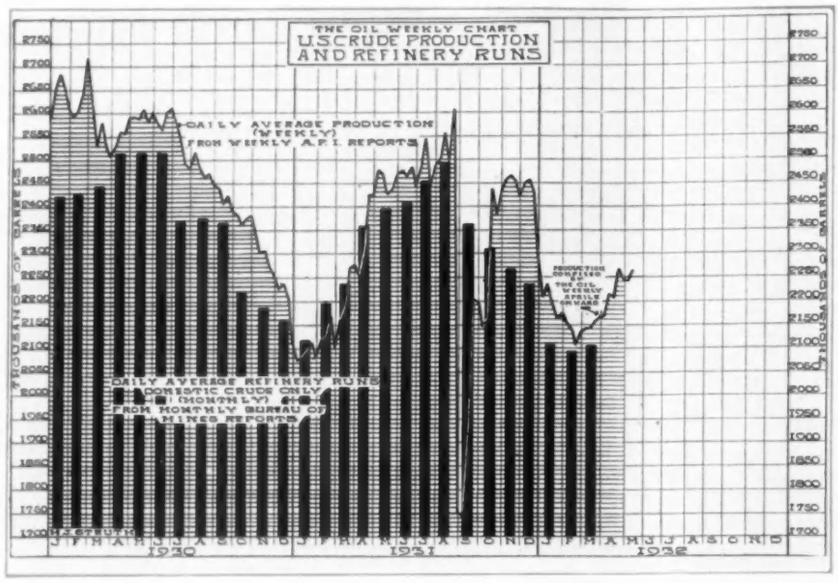
	For Week May 14	Ending May 7
Texas Panhandle	51,150	50,200
North and West Central Texas	72,860	74,290
West Texas	181,400	185,040
East Central Texas	56,652	55,436
East Texas	364,012	332,400
Southwest Texas	60,748	60,115
Total Texas, outside of Gulf Coast	786,822	757,481
Texas Gulf Coast	108,328	106,360
Total Texas	895,150	863,841
Oklahoma City	118,750	134,910
Seminole	139,825	139,910
Other Oklahoma	187,675	181,980
Total Oklahoma	446,250	456,800
Ritz-Decker	13,290	11,260
Voshell	6,350	12,510
Other Kansas	77,190	70,240
Total Kansas	96,830	94,010
North Louisiana	28,725	28,950
Louisiana Gulf Coast	33,079	35,136
Total Louisiana	61,804	64,086
Arkansas	34,200	34,375
Long Beach	82,500	83,000
Santa Fe Springs	65,500	66,000
Midway-Sunset	50,000	51,500
Kettleman Hills	58,000	65,000
Other California	257,300	258,500
Total California	513,300	524,000
Wyoming	38,060	38,070
Montana	6,460	6,590
Colorado	3,430	3,530
New Mexico	36,010	36,120
Total Mountain States	83,960	84,310
Eastern States*	129,050	123,550
Total United States	2,260,544	2,244,972

*Includes Michigan.

Market Shows Continued Stability

OFFERINGS of surplus supplies of gasoline and even crude oil at prices less than the going market continue to enter the industry's market picture. Not satisfied with improved conditions, numerous impatient oil operators and refiners have resorted to price concessions in an effort to get more than their normal share of the market. Fortunately, this practice is not general and the quantities of low-priced material being dumped on the market have not as yet affected the general structure. In fact, prices of both crude and gasoline show continued stability in practically all producing and refining areas.

With crude prices holding firm at the new level, refiners are making the most of their facilities for cracking. This is having some effect upon holding down the demand for crude, but prices of cracking stock are moving up rapidly. Production of motor fuel, however, is being held in check to a remarkable degree, with the result that stocks of gasoline are being drawn upon consistently. This is conducive to continued strength in the gasoline market and, along with improved



prices for other fractions of crude, is resulting in profits instead of losses.

One factor in the present-day market that is decidedly encouraging is the lack of eagerness to meet price competition. Price cutters are apparently being ignored by a majority of sellers in the belief that the day of minority rule of the price structure has passed. Severe losses of last year have no doubt brought about this change of attitude. The result has been to strengthen the undertone of the crude and refined products market. Wholesale gasoline prices moved into higher ground in the Eastern states during the past week, having advanced on an average of one-half cent a gallon. A tendency toward slight weakness in the Mid-Continent gasoline market turned to firmness early this week. Market conditions in the Gulf Coast area have been stabilized to the point where there is practically no underselling. The only unfavorable area is California, where the trade is watching for signs of improvement in the crude situation.

Retail gasoline prices have continued to move into higher ground over a wide area. Advances of one-half cent to two cents have been posted from the Atlantic to the Pacific during the past 10 days. Retail prices have been advanced in New England, Middle Atlantic states, Southeastern states, Southwestern states, Middlewestern states, Rocky Mountain states and also in California. Price cutting seems also to have been reduced to a minimum in the various marketing territories. Lack of availability of cut-price gasoline by the advent of higher crude prices has done much to correct this situation. About the only serious factor in the retail gasoline market now is the tax evader, but this phase of price-cutting is being fought by the states in which it occurs.

Gasoline Stocks Reduced Through Curtailed Runs

REFINERS are apparently cooperating to the fullest extent in an effort to maintain operations in conformity with current market requirements. Last week, still runs were reduced about 100,000 barrels a day, having receded from a daily average of 2,362,000 barrels to 2,263,000 barrels. As a result, stocks of gasoline at refineries showed a drop of 782,000 barrels. The reduction in gasoline stocks during the past two weeks has amounted to 1,664,000 barrels. Stocks of gasoline at refineries on May 7 amounted to 45,621,000 barrels, against 46,403,000 barrels in the preceding week. The peak of stocks was attained on April 23, when the total was 47,285,000 barrels.

Gasoline demand has shown considerable fluctuation during the past few weeks as a result of spasmodic buying by jobbers who have resorted to a policy of maintaining minimum stocks. Buying of gasolien subsided to a considerable extent during the week ending May 7 and if it had not been for the reduction in still runs, gasoline stocks would have shown a material increase. It is seen, therefore, that refinery operations are being controlled remarkably well to conform so readily with market conditions. The major companies have apparently taken the lead in this movement, having determined to bring about a continuation of the early movement of gasoline from storage.

Another factor of a constructive nature is the gradual elimination of "mushroom" skimming plants that sprung up everywhere as a result of depressed crude prices. At present prices of crude, this type of plant with its low yield of gasoline is unable to exist. This is also having some effect in reducing the amount of crude run to stills. In fact, only skimming plants with an outlet for uncracked residuals are able to operate under existing crude prices. While this has had some

Crude Runs to Stills, Gasoline, Gas & Fuel Oil Stocks

As Reported to A.P.I. for Week Ending May 7, 1932
(Figures in barrels of 42 gallons each)

District	Crude Runs to Stills Total	Daily Average	Per Cent Operated	Gasoline Stocks (See Note Below)	Gas & Fuel Oil Stocks
East Coast	3,052,000	436,000	68.8	6,798,000	6,137,000
Appalachian	651,000	93,000	67.7	1,740,000	1,212,000
Ind., Ill., Ky.	2,035,000	290,700	67.4	6,401,000	4,064,000
Okla., Kans., Mo.	1,618,000	231,200	53.1	3,904,000	3,242,000
Texas	3,755,000	536,400	70.1	8,168,000	8,714,000
Louisiana-Arkansas	1,066,000	152,300	66.1	2,149,000	4,726,000
Rocky Mountain	278,000	39,700	27.6	2,060,000	641,000
California	2,831,000	404,400	45.7	14,401,000	95,713,000
Total Week May 7	15,286,000	2,183,700	59.6	45,621,000	124,449,000
Total Week April 30	15,965,000	2,280,700	62.3	46,403,000	123,911,000
Total May 9, 1931	16,285,000	2,326,400	65.1(a)	45,180,000	128,128,000
The Texas and Louisiana Gulf Coastal Figures shown below are included above in the totals of their respective districts.					
Texas Gulf Coast	3,018,000	431,100	81.1	6,568,000	5,945,000
Louisiana Gulf Coast	733,000	104,700	71.0	1,992,000	3,992,000

NOTE: Stocks at refineries, except in California district, which includes stocks of finished gasoline and engine distillate at refineries, water terminals and sales distributing stations and amounts in transit thereto.

(a) This figure is not entirely comparable with current stocks due to revisions made since original publication of this figure, for which revisions the basic information is not available by weeks. If it were possible to have made the revision, the new figure would reflect somewhat lower stocks.

effect upon the crude market in the form of lessened consumption, it has also eliminated undermining influences in the gasoline market.

Seek Changes in Proration Set Up in California

GENERAL reorganization of the curtailment setup in California may be effected in an effort to distribute more equitably the burden which has been shifted back and forth during the past two years. Some dissatisfaction has been expressed at the committees in charge of curtailment, but there is also some friction because of the reduction of the smallest producing wells.

More than one-half of the wells in the state are capable of producing less than 75 barrels daily, while a large number of this total can not pump half as much. It has been the contention of many small operators that they should not be forced to reduce the production of very small wells, since it is impossible to meet demands and to stay within the economic limit on a production considerably less than the actual potential.

A plan to force the larger wells to stand the bulk of the curtailment is being considered, and it is believed that something along this line will replace the present setup. In many instances, these large wells have established a very high forced potential and have been reduced to an allowable which was in reality higher than the correct potential should have been.

Failure of the Sharkey Bill did not disturb its sponsors, and some other plan will take its place. If the operators can agree on some plan of action among themselves, it will be all the better anyway.

Production has been about 65,000 barrels above the allowable, and it is doubtful whether the base allowable ever will be reached. It is thought that a higher state allowable will be posted to make the present production look better. The unofficial allowable has been about 475,000 barrels, but even this figure has not been approached.

Summarized Review of Field Results

	Completions	Oil Wells	Gas Wells	Failures	Initial Prod.
Arkansas	0	0	0	0	0
California	4	3	1	0	1,700
Illinois	2	0	0	2	0
Indiana	1	0	0	1	0
Kansas	1	1	0	0	480
Kentucky	7	2	1	4	80
Louisiana	3	1	0	2	4
Michigan	5	5	0	0	10,700
Mississippi	0	0	0	0	0
New Mexico	0	0	0	0	0
New York	0	0	0	0	0
Ohio	14	2	8	4	105
Oklahoma	20	10	0	10	7,162
Pennsylvania	4	0	1	3	0
Texas	208	185	2	21	1,315,681
West Virginia	7	0	5	2	0
Miscellaneous	0	0	0	0	0
Totals	276	209	18	49	1,335,912

Refined Markets Firm But Demand Below Expected

No material changes were made in the Mid-Continent refined products market during the past week except for an apparent slight weakening due to failure of expected increased consumption to materialize. Low octane motor fuels were offered for resale at an apparent average price of 4½ cents and quotation to the trade ranged from 4¾ to five cents. Conditions during the week were not such as to cause the expectation of immediate increases in the price structure but the market picture has continued to improve over the past few weeks to such an extent that there are many who believe that better times are not far distant. Three of the larger Mid-Continent refiners were said to be in the market for products either not produced in their own plants or produced in insufficient quantities. This buying offset to some extent the failure of jobbers to buy in quantity. Kerosene, which rocketed from about two cents to the point that it was commanding more than the lower octane motor fuels in a relatively short time, had weakened slightly as was expected and was being offered at 4⅛ to 4¼ cents.

Laredo Refinery Resumes Under Lease Arrangements

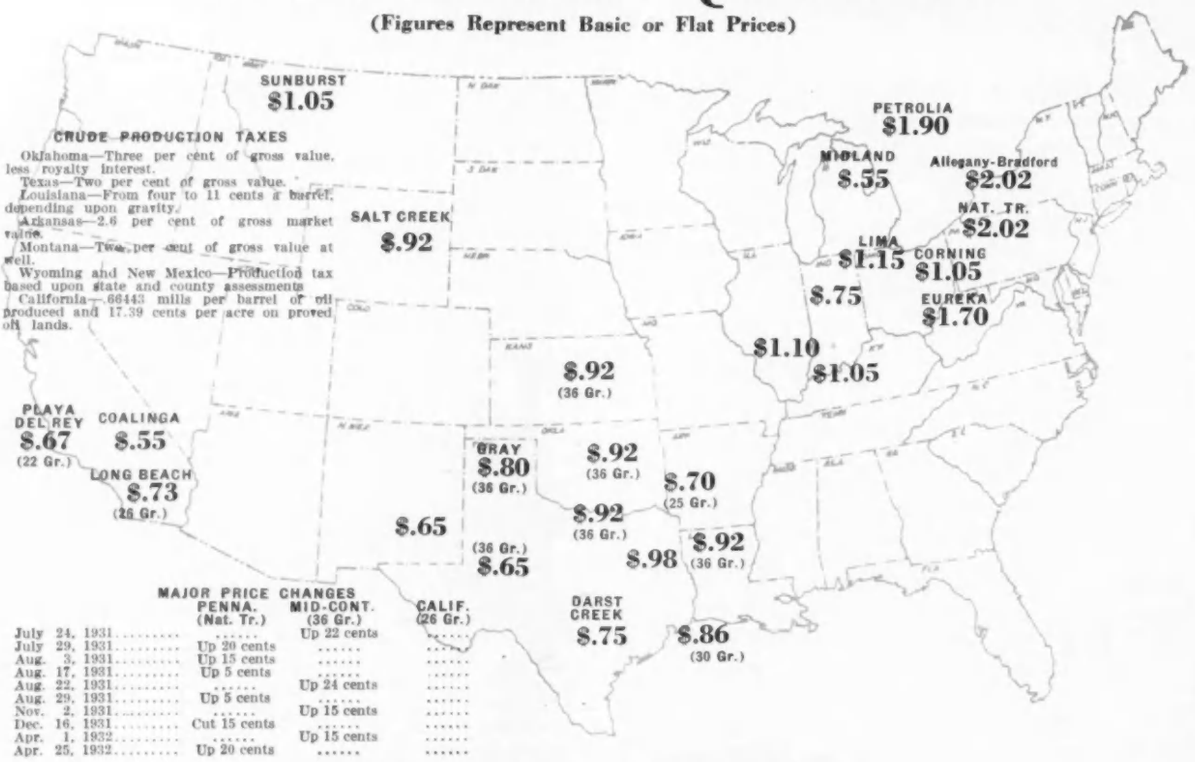
Laredo, Texas.—Resumption of operation of the Texas-Mexican Oil & Refining Company's 600-barrel capacity refinery here is scheduled for about May 15 as result of a three-year lease having been taken on the entire unit by The Rado Refining & Producing Company of Laredo and Fort Worth. The latter is a new corporation formed with a capital stock of $10,000, with the following officers: W. B. Pape, San Antonio, president; Henry B. May, vice-president, and O. B. Stephens, secretary-treasurer, both of Fort Worth. The plant has been idle since last December. It will be supplied with crude via tank cars from several fields in Southwest Texas for the time being.

Comparison of Permits Granted for New Wells

	For week ending May 13	Total this month	Total this year	Total this date last year	1931 year total
Arkansas	0	0	7	20	34
California	18	29	114	150	342
Louisiana	7	22	161	131	309
Kansas	12	27	191	183	475
Oklahoma	27	48	390	412	842
Texas	278	578	2,798	1,943	6,961
Total	342	704	3,661	2,839	8,963

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices)



MAJOR PRICE CHANGES

	PENNA. (Nat. Tr.)	MID-CONT. (36 Gr.)	CALIF. (26 Gr.)
July 24, 1931	.....	Up 22 cents	.....
July 29, 1931	Up 20 cents	.....	.....
Aug. 3, 1931	Up 15 cents	.....	.....
Aug. 17, 1931	Up 5 cents	.....	.....
Aug. 22, 1931	.....	Up 24 cents	.....
Aug. 29, 1931	Up 5 cents	.....	.....
Nov. 2, 1931	.....	Up 15 cents	.....
Dec. 16, 1931	Cut 15 cents	.....	.....
Apr. 1, 1932	.....	Up 15 cents	.....
Apr. 25, 1932	Up 20 cents	.....	.....

Official Postings and Differentials

(Revised to May 13, 1932)

California: (Effective June 19, 1931.)

Signal Hill, Seal Beach and Alamitos Heights: 14 to 22.9 gravity 65 cents; 23 gravity 67 cents with differential to two cents for each degree upward. Top price for Signal Hill, 30 gravity, 81 cents; top price Seal Beach and Alamitos Heights, 27 gravity, 75 cents.

Huntington Beach: 14 to 21 gravity, 65 cents; 22 gravity, 66 cents with differential of two cents for each degree upward. Top price, 27 gravity, 76 cents.

Inglewood: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity 76 cents.

Playa Del Rey: 19 to 20.9 gravity 65 cents with differential of one cent for each degree upward. Top price, 25 gravity, 70 cents.

Olinda and Brea Canyon: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents; 22 gravity 68 cents with differential of two cents for each degree upward. Top price, 28 gravity, 80 cents.

Coyote Hills: 14 to 22.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents with differential of two cents for each degree upward. Top price, 28 gravity, 79 cents.

Santa Fe Springs: 24 to 26.9 gravity 65 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 73 cents; 30 gravity 75 cents; 31 gravity 78 cents; 32 gravity 80 cents; 33 gravity 83 cents; 34 gravity 85 cents; 35 gravity and above 87 cents.

Whittier, La Habra and Montebello: 65 cents a barrel.

Torrance: 14 to 21.9 gravity 65 cents with differential of one cent for each degree to 25 gravity and two-cent differential for 25 gravity. Top price, 25 gravity, 70 cents.

Richfield: 14 to 20.9 gravity 65 cents; 21 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity, 74 cents.

Elwood: 33 gravity 79 cents; 34 gravity 81 cents with differential of three cents for each degree upward. Top price, 36 gravity, 87 cents.

Newhall, McKittrick and Kern River: 55 cents a barrel.

Midway-Sunset, Elk Hills and Buena Vista Hills: 14 to 21.9 gravity 55 cents; 22 gravity 56 cents; 23 gravity 58 cents; 24 gravity 61 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 74 cents; 30 gravity 76 cents.

Lost Hills: 14 to 20.9 gravity 55 cents; 21 gravity 57 cents; 22 gravity 59 cents; 23 gravity 60 cents; 24 gravity 62 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 67 cents; 28 gravity 69 cents; 29 gravity 71 cents; 30 gravity 72 cents.

Coalinga: 14 to 24.9 gravity 55 cents; 25 gravity 57 cents.

Wheeler Ridge: 55 cents a barrel.

Athens, Dominguez and Rosecrans: 24 to 24.9 gravity 69 cents with differential of two cents for each degree upward. Top price, 34 gravity, 89 cents a barrel.

Oklahoma, Kansas, North Texas (Effective April 1, 1932)

Below 29 gravity; 76 cents, with differential of 2 cents for each degree to 40 gravity and above which is posted at $1.00.

Texas Panhandle: (Effective April 1, 1932)

Gray County: Below 35 gravity: 71 cents, with differential of 2 cents for each degree to 40 gravity and above which is posted at 88 cents.

Carson and Hutchinson Counties: Below 35 gravity; 66 cents with differential of 2 cents for each degree to 40 gravity and above which is posted at 78 cents.

West Texas: (Effective April 1, 1932).

Crane-Upton, Crockett, Ector, Howard-Glasscock, Pecos and Winkler Counties, Texas, and Lea County, New Mexico: 65 cents a barrel.

Southwest Texas: (Effective April 11, 1932)

Refugio: Heavy 80 cents.

Refugio: Light: (Same as Gulf Coast—see below).

Gulf Coast: (Effective April 1, 1932).

Goose Creek, Hull, Liberty, Orange, Pierce Junction, Mykawa, Moss Bluff, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugarland, West Columbia, Humble and Refugio Light: Below 25 gravity: 80 cents, with differential of 1 cent for each degree to 40 and above which is posted at $1.00.

Mirando: 80 cents; Salt Flat: 75 cents; Darst Creek: 75 cents; Pettus: $1.00; Markham: Same as Gulf Coast.

East Texas (Effective April 1, 1932)

Flat Price: 98 cents.

North Louisiana and Arkansas: (Effective April 1, 1932)

Caddo, Homer, Haynesville, Bull Bayou, Sabine, Cricton, DeSoto, El Dorado, Cotton Valley, Sarepta, Cartersville: Below 25 gravity 68 cents with differential of 2 cents for each degree beginning with 25 gravity and ending with 40 and above. Top price $1.00 a barrel.

Smackover: 65 cents.

Rocky Mountain States: (Effective April 11, 1932).

Salt Creek: Below 29 gravity 76 cents; 29-29.9 gravity 78 cents, with differential of 2 cents each degree to 40 and above. Top price $1.00.

Elk Basin and Grass Creek: $1.20; Big Muddy: 98 cents; Lance Creek, $1.15; Rock Creek: $1.00; Sunburst: $1.05; Osage: 98 cents; Cat Creek: $1.20; Pondera: 90 cents; Hogback, New Mexico: 80 cents.

Mid-Western States: (Effective April 11, 1932).

Lima: $1.15; Indiana: 75 cents; Illinois: $1.10; Princeton: $1.10; Wooster: $1.25; Western Kentucky: $1.05.

Pennsylvania: (Effective April 25, 1932).

Bradford District: $2.02; National Transit Oil: $2.02; Southwest Pennsylvania Pipe Line Oil: $1.75; Eureka Pipe Line Oil: $1.70; Buckeye Pipe Line Oil: $1.55; Corning Crude: $1.05.

Michigan: (Effective Oct. 9, 1931). Midland: 55 cents a barrel. Muskegon: 61 cents to 85 cents a barrel.

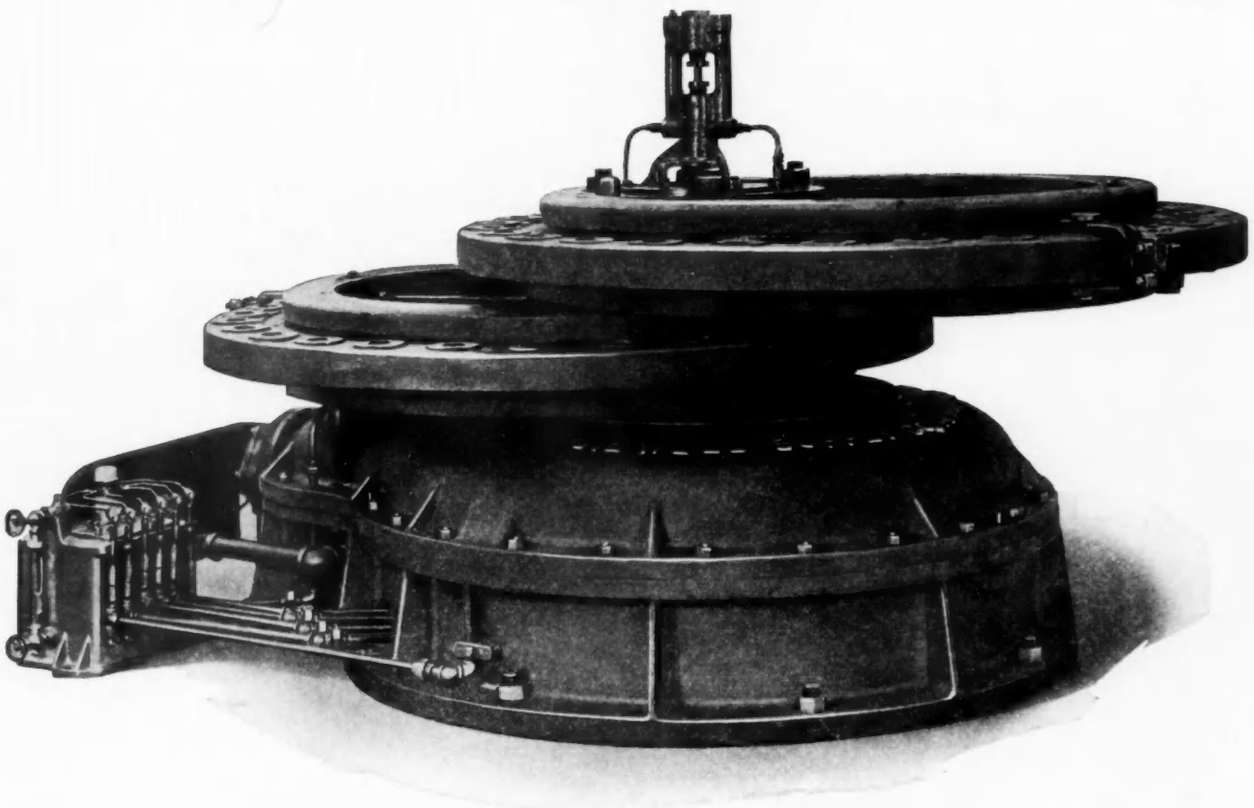
Canada: (Effective Nov. 3, 1931).

Petrolia: $1.90; Oil Springs. $1.97.

ANNOUNCING

the IMPERIAL No. 80

OILBATH GEARED POWER



(Patents pending)

An extremely rugged and compact design of the overpull type—driven through a double reduction gear. All gears are machine cut and are entirely enclosed in an oil-tight base, running continuously in an oil bath. The eccentric bearings and all bearings not immersed in the oil bath, are lubricated by a force-feed *return system* by which clean lubricant is re-circulated.

Rated horsepower is 80 at 20 R. P. M. Band wheel powers of this capacity have greater housing expense and higher belting cost. Consult with the nearest "Oilwell" Branch on the exceptional and economical advantages of the No. 80.

OIL WELL SUPPLY CO.

Branch Stores in all Oil Fields

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

1859

"OILWELL"

Construct World's Largest Dry Seal Piston Type Gas Holder

STACEY BROTHERS Gas Construction Company, Cincinnati, Ohio, has recently completed for Syracuse Lighting Company of Syracuse, New York, a 6,000,000 cubic foot Stacy Klonne piston type dry seal gas holder, the largest holder of its design in the world and the first of this type to be completed in the Western Hemisphere. Others are being built at Reading, Pennsylvania, and at Kalamazoo, Michigan.

The Stacy-Klonne waterless piston type gas holder is a German invention, and the first holder of this type was built about 1927 by August Klonne. Approximately 45 holders of this design, with an aggregate capacity of about 50,000,000 cubic feet, have since been erected in Europe and Africa.

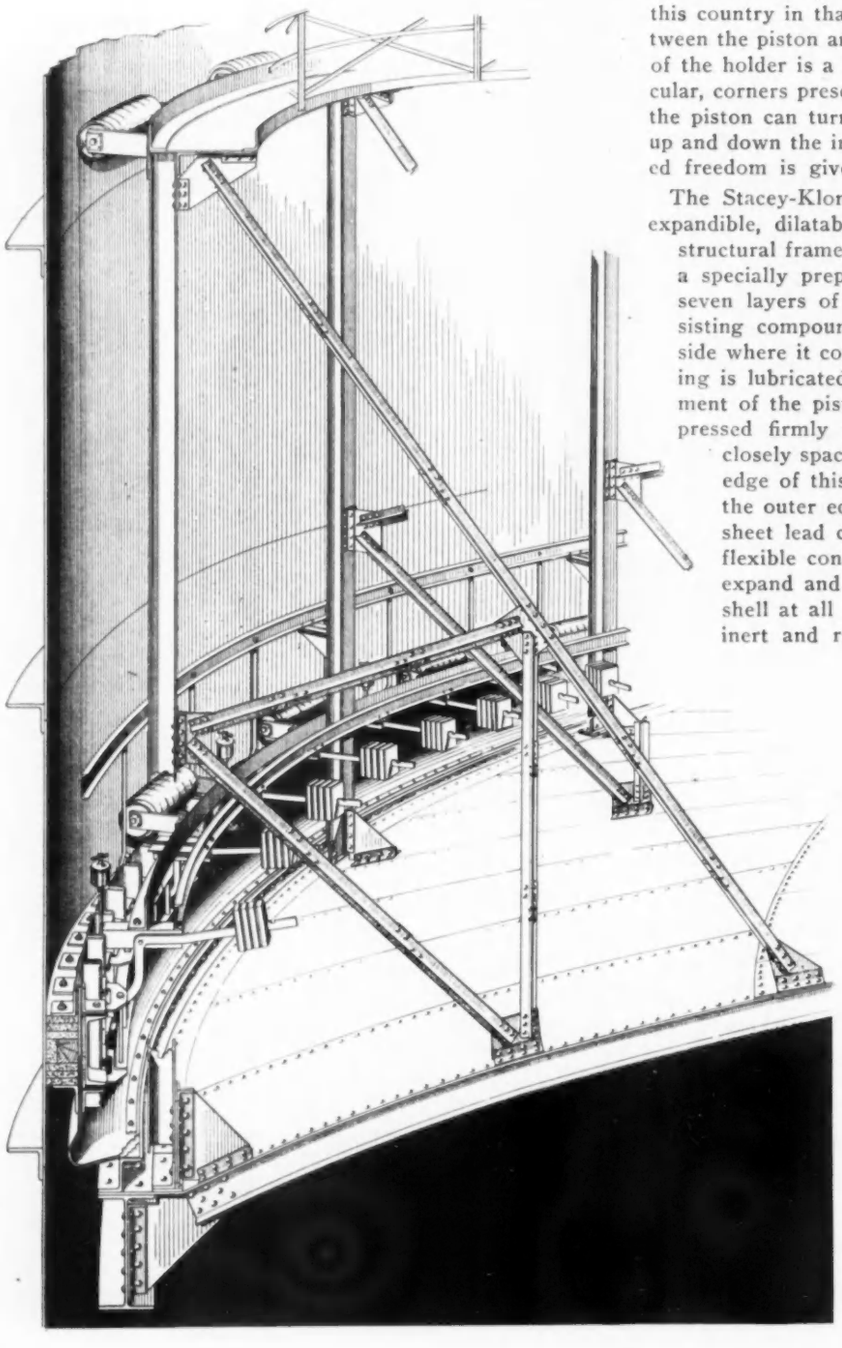
The exclusive rights for the manufacture of these holders in this country are held by Stacey Brothers Gas Construction Company.

No water or other liquids are used in the seal. It differs from the other piston type waterless gas holders in use in this country in that a dry mechanical seal is employed between the piston and holder shell and that the cross section of the holder is a circle rather than a polygon. Being circular, corners presenting difficulty in sealing are eliminated, the piston can turn or twist without binding in its travels up and down the interior of the holder shell and unrestricted freedom is given to the piston guide rollers.

The Stacey-Klonne seal or packing ring consists of an expandible, dilatable sheet steel ring suspended from the structural framework of the piston, to which is attached a specially prepared gas-resisting packing, made up of seven layers of cotton fabric vulcanized with a gas-resisting compound and faced with leather on the lower side where it comes in contact with the gas. This packing is lubricated by a special grease to facilitate movement of the piston in the holder shell. The packing is pressed firmly against the holder shell by means of closely spaced counterweight lever arms. The lower edge of this expansible sealing ring is connected to the outer edge of the piston structure by a strip of sheet lead covered with fabric, forming a gas-tight, flexible connection and permits the packing ring to expand and contract and follow the contour of the shell at all times. The lubricant used is practically inert and remains static over a wide temperature range so that it can be used the year round without heat or other special treatment.

The seal eliminates the need for equipment required to pump and heat the liquid used for sealing other types of holders and furthermore does away with the maintenance cost of this equipment.

The Syracuse holder shell is 188 feet in diameter, 251 feet high to the top of the shell, and is covered with a spherical roof on the center of which is built a 20 foot diameter dome in which are housed the interior elevator and other equipment used for securing access to the interior of the holder. The holder shell is made up of 3/16-inch steel plates reinforced by



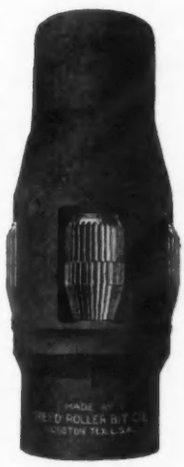
Drawing shows structural design and interior mechanism which permits raising and lowering, with tight seal, of Stacey Klonne Dry Seal Piston Type Gas Holder

From....

PIONEER TO PREMIER

Reed Roller Bit Company

REAMERS



THE PIONEER

The early Reed Standard Model Four Point Contact Reamer.

The Reed Roller Bit Company pioneered in the Rotary Reamer field with the early Standard Model Single Four Point Reamer that was made a part of the Reed Standard Model Bit.

This model reamer was provided primarily for the maintaining of a round, full gauge hole into which casing would easily slip.

The value of using these reamers for this purpose was recognized generally and in consequence reamers were adopted in rotary fields everywhere and "reaming down" with Reed Reamers before running casing became a custom.

The Reed Model 26 Double Three Point Reamer giving a six point wall contact, but with the added clearance for slush passage of a Three Point Contact marked the first important step toward straight hole drilling practice.

The Model 26 Single Four Point Reamer, with its running mate, the Model 26 Double Three Point Reamer, having much increased clearance in the hole, began eliminating the practice of reaming down and instituted the practice of running reamers behind bits of all types to keep the hole straight, as well as out to full gauge.

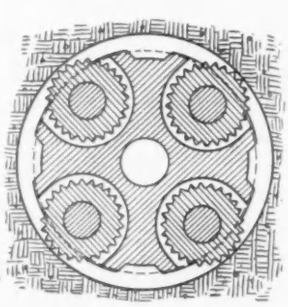
Broad experience in reamer building by the Reed Roller Bit Company directed improvements now incorporated in the Reed Type 31 Single and Double Three Point Reamer. This reamer was built to meet the demands of late drilling requirements and has kept pace with improved rotary equipment.

THE PREMIER

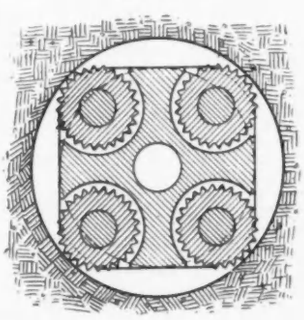
Built on mature experience, the Reed type 31 stands supreme as a straight hole guide and reamer.

The Reed Model 26 Four Point Contact Reamer with squared sides for increased slush passageway and with added tong space.

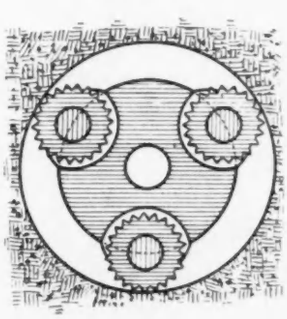
Standard model reamer clearance 18% of hole.

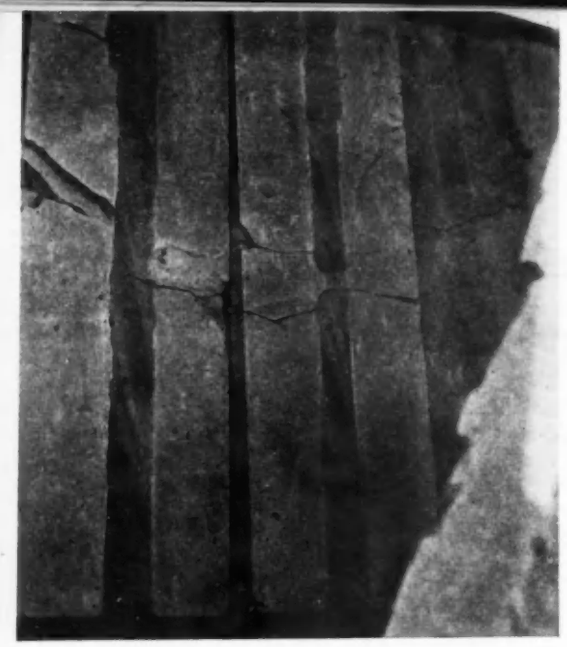


Model 26 reamer clearance 28% of hole.



Type 31 Single and Double Three Point Reamer clearance 35% of hole.





A concrete illustration of how a two point contact bit caused rifling of the hole and because of lack of reamers the bit was forced out of alignment and the cut hole of varied diameter.

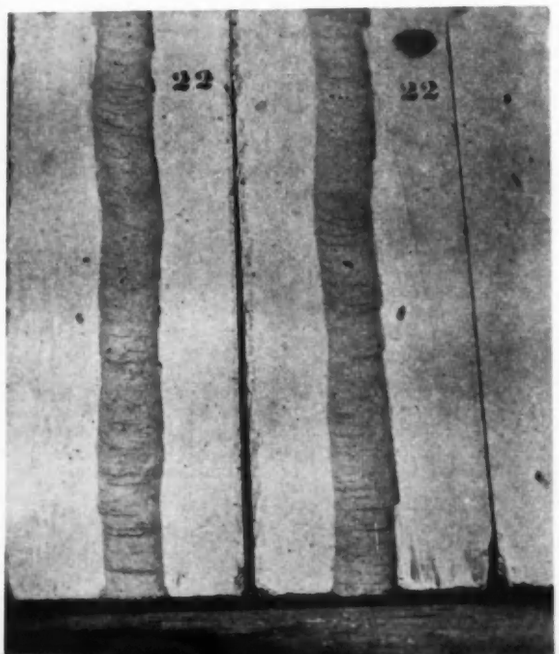
Actual Tests Show ning Reamers

Results of conclusive tests to prove the justification and value of drilling with reamers as made by one of the major operating companies of the United States are pictured here.

A 100% wall contact provides the ideal straight hole guide—but, clearance for slush passage being necessary, the:

Six Point Contact, with staggered Reamer Cutters in the Reed, Double Three Point Reamer is the practical answer.

A good demonstration of crooked hole produced by the bit wobbling in the hole without a reamer or a straight hole guide.



Reamer Cutters that trim the hole wall, but do not cut into the hole wall, are used in Reed Roller Bit Company Reamers.

Reed Reamers have a ruggedness of construction that comes only through long experience in reamer building.

Reed Reamers are forged from the

Necessity for Run-With All Bits

toughest of alloy steels obtainable, with connections made integral and heat-treated to correct tool joint hardness.

Three tools in one: Reed Type 31 Reamers are drill collars, straight hole guides, and reamers all in one.

Tong space is provided at both ends of Reed Reamers.

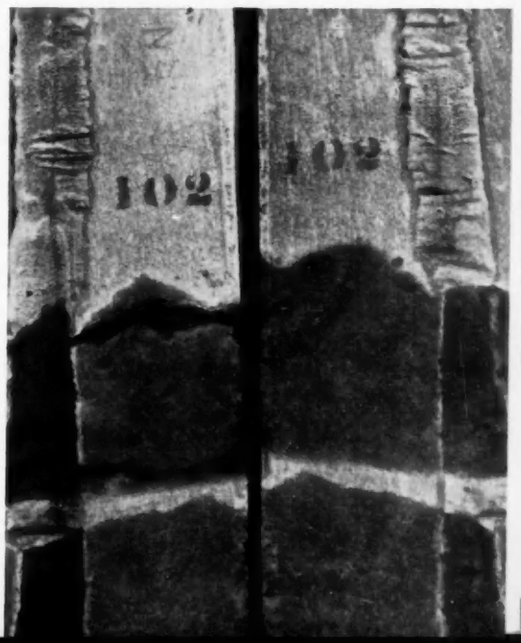
Ample rotary slip and elevator space is on every Type 31 Reed Reamer to facilitate handling on the derrick floor.

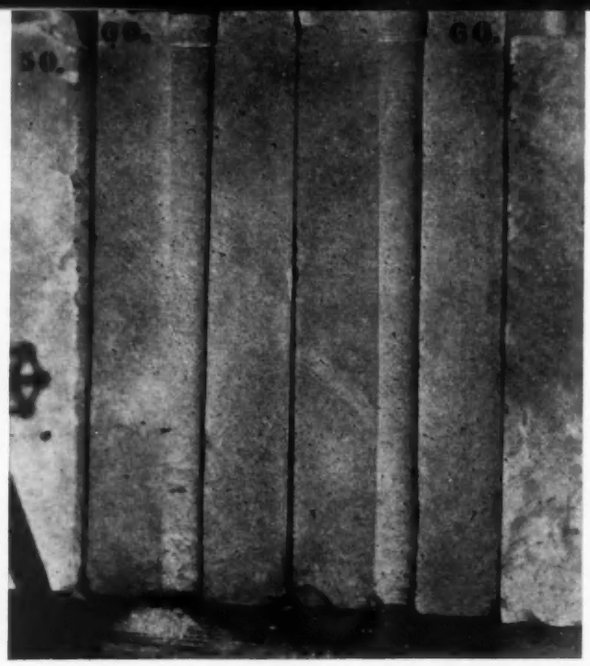
Superiority in design and construction of Reed Reamers came through pioneering and long experience and now is backed by the finest of forging, machining and heat-treating plants and metallurgical laboratories in the world.

A superior tool means more service per dollar invested.

Vivid picture of what takes place in broken formation or between layers of hard rock when reamers are not used for keeping the bit in alignment.

An example of bit deflection caused by bit progressing from shale to harder formation. Had the bit been held in alignment with double three point (six point contact) reamers this deflection would not have occurred.





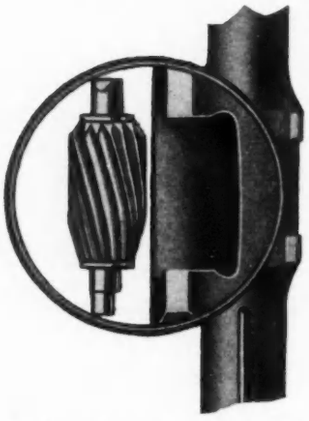
A straight, round, full gauge hole drilled with a Reed Type 31 Double Three Point Reamer following the bit.

The Reed Roller Bit Company's Type 31 Reamer, built on experience—of the finest of selected alloy steels—heat-treated by the most modern methods—designed to incorporate present-day drilling requirements—ample clearance—rotary slip and elevator space for handling—inserted case-hardened bearing blocks—better made reamer cutters, reamer cutter pins and washers—reamer cutters easily replaced on the derrick floor.

A SUPERIOR REAMER FOR DEPENDABLE SERVICE

Type 31 Double Three Point Reed Reamer.

Inserted Case Hardened reamer pin Bearing Blocks give added service to reduce upkeep and repair costs.



Superior Reamer Cutters and Reamer Cutter Pins and Washers made of the finest of alloy steels and heat-treated in an electric furnace, under complete automatic electric control, render that unequaled additional service necessary to economical operation in present-day drilling.

Type 31 Single Three Point Reed Reamer.

REED ROLLER BIT CO.

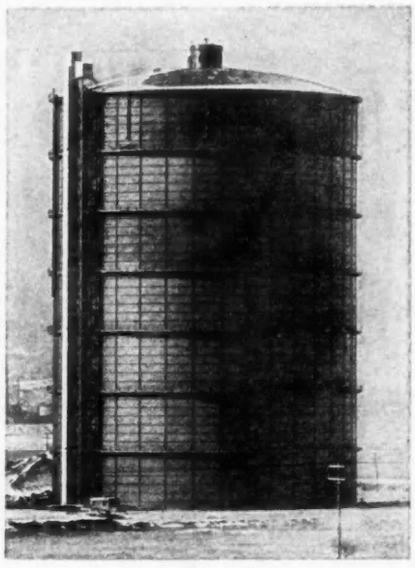
HOUSTON **NEW YORK** **LOS ANGELES** **OKLAHOMA CITY**

***Gulf Coast and Mid-Continent Distributor for* MARTIN-DECKER PRODUCTS**

36 vertical nine inch I-beams spaced 16½ feet apart along the circumference and by 5 x 3½ x 5/16 inch horizontal angle rings spaced about five feet apart vertically. In addition there are seven four-foot wide horizontal girders or balconies about 36 feet apart. The shell plates are butted at the columns and riveted to them and to the circular angle stiffeners, with all rivets countersunk and ground smooth on the interior.

Within the holder is the structural steel piston to the perimeter of which is attached a flexible seal ring that confines the gas to the space below. When the piston is at rest on the landing blocks, its entire weight is supported at the perimeter, thus eliminating the necessity for providing a foundation for the interior area of the holder other than to support the bottom plating and gas pressure. The use of comparatively light foundation is given as one of the advantages of waterless gasholders.

The piston is a segment of a sphere designed as a self-supporting arch made up of radial and circular channels except at the outer circumference where a ring of 24 inch 93 pound sections reinforced with a ¾ x 21-inch plate riveted to the web, is utilized to resist the high stresses. This structural steel frame is covered with 3/16-inch plates riveted to all radial and circular channels.



Stacey-Klonne Gas Holder

The piston is guided in its travel up and down the shell of the tank by an upper and lower set of laminated wood rollers 9½ inches in diameter, 18 inches long and spaced about four feet on centers. Both sets of rollers which are about 25 feet apart vertically are located above the piston and are accessible at all times. The lower set of rollers is located immediately above the piston or packing ring, the upper set being attached to the horizontal girder at the top of the structural bracing, which extends from the piston deck. This girder also serves as a balcony or walk when lubricating the bearings of the rollers.

The exterior of the Syracuse holder is provided with a stair and an electric elevator. Access to the piston is provided by means of an electrically operated lift suspended from the dome in the center of the roof, and in addition by a double-chain folding ladder.

Why Insure Against Crooked Holes?

III.

SOME of our friends have remarked on the fact that THE OIL WEEKLY has had a number of editorials on the necessity of drilling straight holes and upon the necessity of taking advantage of the scientific methods now available to insure straight drilling. Some have wondered why it is that THE OIL WEEKLY has been urging a thorough survey of wells to determine not only deviation but the direction of the deviation.

There are so many sound reasons why the operator should survey his well as it is being drilled that it is unnecessary to mention all of them.

A few of them will suffice:

1. The condemnation of acreage which might otherwise be productive, through the drilling of a crooked hole, is reason enough in itself. The landowner suffers, the state suffers, but most of all the operator who has a heavy investment suffers.

2. On a 4000-foot hole, an average deviation of five degrees amounts to 349 feet displacement laterally of the bottom of the hole. On a 10-degree average deviation of a 4000-foot hole, a displacement laterally of the bottom of the hole of 705 feet is the result—enough in narrow fields to entirely miss the field or get such a small producer, that the block of acreage may be given up.

3. On a 4000-foot hole, with an average vertical deviation of five degrees, an addition of 15.2 feet is caused. An average deviation of 10 degrees in the same hole means 61 feet additional in drilling depth, and that of 15 degrees, 104 feet additional.

Even at the present low cost of drilling, a loss of 61 or more feet of hole is enough to make an operator sit up and take notice, particularly when he places against it the cost of surveying his wells and the values gained from such surveys.

4. The cost of handling oil from crooked holes is undoubtedly great enough to make necessary every precaution for straight hole drilling. This last subject is, we feel, of major importance. For some time THE OIL WEEKLY has had a staff man working with the engineering department of an oil company to determine just what the relation between a crooked hole and lifting costs may be. We all know that tubing trouble, rod trouble and many other troubles incidental to pumping are accentuated by crooked holes. We know that these troubles are reflected in increased costs of pumping. Just what the ratio is has never been determined but undoubtedly there must be a close relation.

There are, of course, other reasons why the operator should insure against crooked hole drilling.

It is a matter of pride among drilling contractors and drilling crews that holes are being drilled straighter today than ever before. This is due to more care in drilling, special equipment, and more than that, it is due to surveying the holes as they are drilled. This is as it should be and in view of all the foregoing it would appear to us that in times when the oil producer's dollar should go further than ever before, he should make sure that his dollar goes further in the right direction.

How Bottom Hole Pressure Data *is Used*

(1) What are the advantages and uses of a knowledge of bottom hole pressures?

(2) What is the relation between flow pressure and bottom hole pressure?

The accompanying discussion is an attempt to answer the above two questions, the explanation having been prompted by a letter received recently from a well-known and competent California engineer.

Referring to an article entitled "New Apparatus for Precise Measurement of Bottom Hole Pressures," by Stanley Gill, in the April 4, 1931, issue, page 27, the letter stated:

"In one of your issues of The Oil Weekly I read about the thin tubing that is run to bottom of holes to determine bottom-hole pressures. It was an excellent description of the apparatus, and now that I know how it works, I wish you would get the fellow who owns it to tell us what good it does, how he uses it, and to bring out the relationship between the bottom hole pressures and the flow pressures of the well."

The Answers in Condensed Form

(I). *What are the advantages and uses of a knowledge of bottom hole pressure?*

Advantages

A knowledge of bottom hole pressures is of direct value to the individual operator, increasing his profits through lowered lifting costs and greater recovery. It is likewise of value from the standpoint of the general public, conserving a natural resource by making higher percentage of oil recovery possible.

Specific Uses

In achieving the above general benefits, the bottom hole pressure information is used in various ways. Some of the specific uses or applications are herewith listed.

(1) Bottom hole pressures of *closed-in* wells, representing the pressures existing within the producing formation, show the way toward uniform maintenance of the reservoir pressure, and are therefore employed as foundations for conservation or proration programs aimed at increasing recovery and reducing waste.

(2) Such closed-in pressures, observed from time to time, also show rate of pressure depletion, and enable the engineer to predict the flowing life of a field.

(3) Bottom hole pressures, observed in drilling or completed wells, make possible correlation of oil sands and therefore aid in drilling procedure and in geological interpretations.

(4) Comparisons of bottom hole pressures in wells under *closed-in* and *producing* conditions show permeability of the productive formation and may therefore be used as the basis for determining potential production in proration programs.

(5) Similar comparisons, showing permeability of producing formations, are of practical value in repressuring (or pressure maintenance) programs.

(6) Likewise, since such comparisons of bottom hole pressures show the capacity of the formation to give up its oil, they indicate proper flow string or pumping equipment needed for a well.

(7) Bottom hole pressures of producing wells, considered along with solubility of gas and rate of water encroachment, afford an indication of the amount of oil in a producing formation.

(II). *What is the relation between flow pressure and bottom hole pressure?*

Flowing Wells

In *flowing* wells the surface pressure does not successfully reveal pressure at the bottom of the well because uncertainty as to relative proportions of gas and oil in the fluid column makes it impossible to know or make proper allowance for the weight of the column, the factors which give rise to that uncertainty including friction of the fluid in the flow string, gas-oil ratio, solubility of gas, and slippage of oil back downward after rising in the flow string.

Closed-in Wells

In *closed-in* wells, likewise, the well-head pressure does not constitute an absolutely accurate index to the bottom hole pressure, due to uncertainty as to the true weight of the fluid column. Even by bleeding off gas which has accumulated at the top of the well, leaving a solid column of oil to be reckoned with, there is chance for error. For with depth of the well known, the weight of the column of oil still cannot be calculated without knowing its average specific gravity; and that factor cannot be known without actual measurement of the bottom hole pressure. That gravity factor may be determined in one well by actual bottom hole pressure measurement and then used as a basis for approximate calculations in other wells, and such a method is in fact being used in the East Texas field and elsewhere. But as the reservoir pressure of a field declines the average specific gravity changes, and actual measurements of bottom hole pressures with special instruments or devices are again needed.

Surface hook-up for one of several methods now being employed in measuring bottom hole pressures.

Higher Recovery ... More Profit

Through Proper Control of

Bottom Hole Pressures

JACK LOGAN

AMONG the numerous subjects now being studied by petroleum engineers in efforts to bring about greater efficiencies and economies in producing oil, that concerning bottom hole pressures offers perhaps the most far-reaching possibilities. For those pressures reflect an accurate and striking picture of what is actually going on underground in the producing formation, and proper understanding and regulation of those underground developments may mean the difference between loss and profit for the operator.

In addition to ascertaining the bottom hole pressures of closed in and producing wells, it is likewise possible to determine pressures which exist within a shut in or producing well at any depth between top and bottom. These are not "bottom hole" pressures, and since they have been given only limited study and application, they will not be touched upon to any great extent here; but they really fall within much the same category as the bottom hole pressures and afford similar advantages and benefits, such as indicating proper proportioning of flow strings and thereby leading to longer flowing life.

The various methods and devices which have been developed for measuring the above discussed pressures within oil wells have been described in the paper by Stanley Gill in the April 4, 1932, issue of THE OIL WEEKLY and in earlier articles which he listed in his accompanying bibliography.

With the above discussion as a background, an effort will now be made to answer the first of the two questions, concerning the advantages and uses of bottom hole pressure data.

Advantages of Knowing Bottom Hole Pressures

A knowledge of bottom hole pressures is really of such far-reaching value as to make its advantages somewhat difficult of classification or orderly discussion. There are, however, two outstanding, general advantages which might be pointed out as resulting from a knowledge of bottom hole pressures, as follows:

(1) *Such knowledge offers greater ultimate profits through lowered lifting costs and higher oil recovery.* This advantage

appeals particularly to the individual operator, who is concerned primarily with monetary gain for himself.

(2) *The pressure knowledge through increasing ultimate oil recovery.* This is an advantage from the viewpoint of the general public, which is interested in conserving its natural resources.

Both of the above advantages or benefits accrue because understanding and regulation of bottom hole pressures make possible a more complete utilization of the energy inherent in the oil sand in the form of pent up gas and water drive, as well as a minimizing of waste, such as permanent trapping of oil within the producing formation by disorderly invasion of bottom water.

ACKNOWLEDGEMENTS

In connection with the accompanying material on practical value of bottom hole pressure data, special thanks are herewith extended to H. D. Wilde, Jr., research engineer, Humble Oil & Refining Company, Houston, who offered many of the ideas embodied in the discussion; and to Stanley Gill, consulting engineer, also of Houston, author of the recent article in The Oil Weekly which precipitated this treatment of the subject, who likewise contributed very important suggestions.

Valuable information was also derived from the following papers: "Bottom Hole Pressures in Oil Wells," by C. V. Millikan and Carroll V. Sidwell, production engineers, Amerada Petroleum Corporation, presented before the Petroleum Division of the American Institute of Mining and Metallurgical Engineers, and published in The Oil Weekly May 15, 1931, page 23; "Using Pressure Drop in Sand to Measure Well Capacities," by H. D. Wilde, Jr., and T. V. Moore, engineers, Humble Oil & Refining Company, presented before the American Petroleum Institute Division of Production and published in The Oil Weekly June 5, 1931, page 26; and "New Apparatus for Precise Measurement of Bottom Hole Pressures," by Stanley Gill, the above mentioned paper, published in The Oil Weekly April 4, 1932.

When the withdrawal from a field is properly controlled its flowing life is increased; lifting costs are proportionately lowered; water encroachment is effectively regulated; and ultimate recovery is raised. The production control which can make possible all those desired ends, however, must be based upon definite information as to what is going on in the producing formation. It is such information that the engineer obtains in studying the bottom hole pressures. Those pressures show how much oil can be safely produced and what precautions and practices should be employed.

Some Specific Uses of Bottom Hole Pressure Knowledge

In attaining the above general advantages or benefits, the bottom hole pressure information is used in a considerable number of different ways. Some of the specific uses or applications are herewith listed.

(1) *Bottom hole pressures of closed-in wells, pointing the way to uniform maintenance of reservoir pressure, serve well as the foundation for a conservation or proration program.* This application is practicable in either state-enforced or voluntary programs, and the pressure information is being so used, in fact, in various fields, including the large East Texas field and Yates pool, West Texas.

The uniform maintenance of reservoir pressure throughout the field is a desirable goal because it is generally recognized by engineers as a requisite to efficient production and the elimination of waste. Whether or not the pressure is being maintained uniformly becomes apparent through the study of the closed-in bottom hole pressures, and if those pressures reveal that the desired uniformity is not being achieved, production practices and policies may be revised so that it will be attained.

Absence of uniformity of reservoir pressure throughout the field implies the existence of localized low pressure areas, due to excessive rates of producing wells or to sand which is relatively tight or otherwise slow to give up its oil. Such low pressure areas are sources of trouble and waste, for in them bottom water invades irregularly, trapping off oil, which cannot be recovered; unable to keep pace with the rapidly vanishing oil, the water which naturally drives the oil to the well lags and fails to aid as normally in the process of expelling or lifting oil in the well; and free gas is liberated, to escape from the sand without aiding properly in lifting oil with which it is associated, or else to linger within the producing formation and retard migration of the oil to the well. Indicating the low pressure areas, therefore, the bottom hole pressure investigation strikes at the root of inefficiency and waste, and makes possible a correction of those evils. In some instances the remedy will be simply to cut down production rates in the low pressure areas; in others it may also involve change of equipment or production practice. In any event, something can be done to restore uniformity of the reservoir pressure and attendant efficiency.

(2) *Bottom hole pressures of shut-in wells, measured at different time intervals, make possible a prediction of the flowing life of a field.* Such foresight is of concrete value in various ways. It makes possible an accurate appraisal of the value of a property in the field in connection with sales or purchases; and it guides the operator in laying out his pumping program, eliminating premature buying of equipment.

The calculation of the flowing life is a rather simple one. Through consideration of such factors as the amount of gas available per barrel of oil and depth of wells, the engineer can determine the approximate pressure which must exist in the producing formation in order to keep wells flowing. Knowing also the rate at which the reservoir pressure is declining, through previous observations of bottom hole pressures, he can then calculate how long it will be until the wells will quit flowing.

Average reservoir pressure of the big East Texas field, for instance, is now estimated to be less than 1450 pounds, while it has been calculated that wells will cease to flow when pressure has dropped to levels ranging from 950 to 850 pounds. Pressure decline in the past, despite proration enforcement, has been around 15 pounds per month, according to testimony offered at a recent hearing of East Texas operators before the Texas Railroad Commission. Granting accuracy of the above factors, and assuming continuation of the mentioned rate of pressure decline, the conclusion would be that virtually all wells in the field will reach the pumping stage within 24 to 30 months.

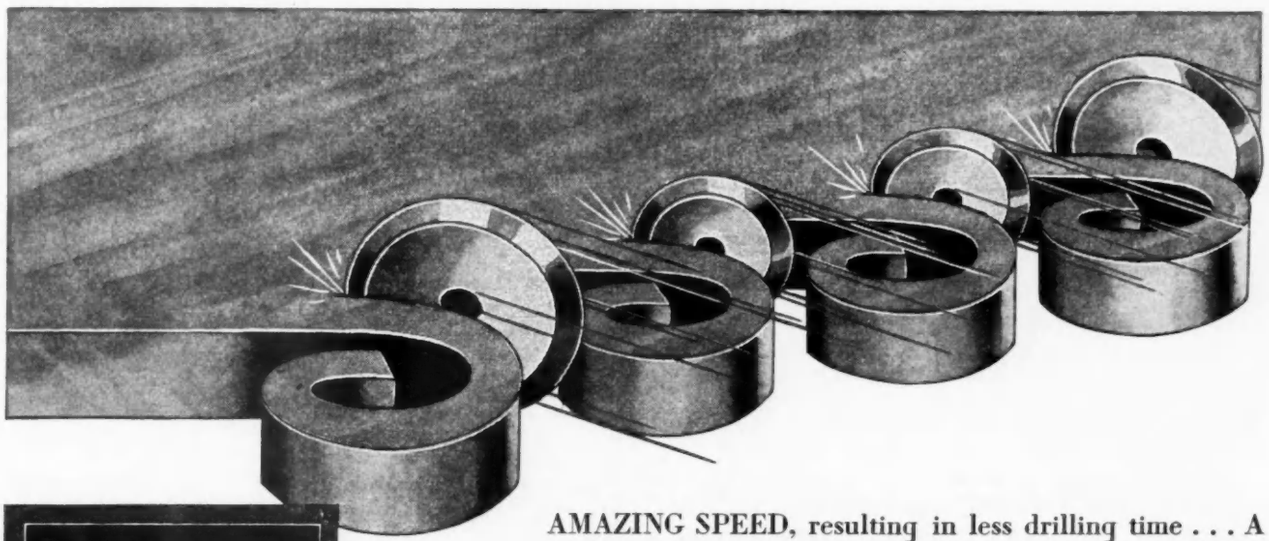
(3) *Bottom hole pressures are valuable in correlating formations.* For each sand has a characteristic pressure, and such pressures may vary widely even for sands lying not far apart. Aside from determining the identity of a sand for geological purposes, the bottom hole pressures are valuable in drilling operations. Thus in cable tool drilling the scribed as having two distinct advantages over open flow from that sand into a lower sand of smaller pressure when the latter is encountered, and drill cuttings might in consequence be packed tightly enough around the drilling bit to give rise to a fishing job.

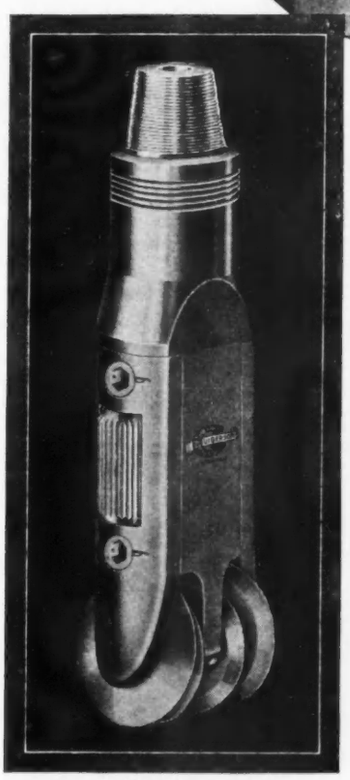
(4) *Differences of bottom hole pressures of wells under shut-in and producing conditions have been suggested as the basis for determining potential production of the wells in proration programs.* Under this plan the bottom hole pressures are used to ascertain the permeability of the producing formation—its capacity for delivering oil to the well.

This method of determining potential production is described as having two distince advantages over open flow gauges: first, giving more accurate index to the production capacity of wells by virtue of not being affected by differences of depth, size of casing, or kind of surface equipment, as are the open flow tests; and second, eliminating waste of gas and bottom water invasion commonly accompanying open flow gauges.

The principle upon which this potential production de-

FOUR DISCS
OF THE GUIBERSON DISC BIT
CUT DOWN OVERHEAD





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The Guiberson Disc Bit now holds a long list of performance records. Pay particular attention to the unique savings and advantages gained by Four Discs.

Four Discs cut up material more finely for flushing from well. Two inner discs cut up core which gives trouble with two-disc bit, impeding free roll and wearing cutters flat.

Axis is offset from true radius of bit, so that discs have full circumferential travel. Inside and outside cutters are on different axes, so that spaces between them are kept clean by revolution of cutters.

Reamers in side plates ream full size; no further reaming necessary.

Water flush holes extend to bottom of bit, keeping bottom of hole clean and flushing cutters.

Head of bit is flat on two sides, providing ample passage for water and cuttings. Due to speed of bit, efficient, large capacity pumps are recommended.

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BETTER BE SAFE THAN SORRY

termination is based is simple. When a well is shut in long enough its bottom hole pressure builds up until it represents the formation pressure. Then when it is opened again, the pressure at the bottom of the hole drops. The drop will depend on the ability of the sand to deliver oil to the well, being greater where the sand is tight or otherwise difficult of permeation. Stated in another way, a given pressure-drop will result in a particular rate of production, depending upon existing sand conditions, and consequently varying widely with different wells. Thus the rate of production secured at a given pressure-drop constitutes an equitable index to the producing capacity of a well, and to the proration quota which the well should be allowed. In practice the allowable for any well would be the rate at which it can produce oil when pressure-drop in the formation is a definite percentage of the rock pressure. This plan was proposed and discussed in detail by H. D. Wilde, Jr., and T. V. Moore in a paper presented at an American Petroleum Institute meeting and published in THE OIL WEEKLY June 5, 1931, page 26.

(5) *Bottom hole pressures of wells, measured first with the wells closed in and then with them producing, are of great value in modern repressuring (or pressure maintenance) programs.* In work of this nature, as in the above described plan for determining proration allowances, the differences of pressure are used for indicating permeability of the producing formation.

Studying the differences in production rates with given pressure drops, engineers can plot the permeability of sands throughout a field, determining where the sand is tight and where loose, where injected gas is needed, and where key or injection wells should be located.

(6) *By comparing bottom hole pressures in a well under producing and shut-down conditions, the operator can determine whether or not the flow string or the pumping equipment affords maximum efficiency.* Here again is involved the permeability of the producing formation.

If the well is pumping the pressure data will show whether the obtained production rate is limited by the capacity of the pump or by the capacity of the formation to give up oil. Similarly, if the well is flowing, the pressure information will show relative capacities of flow string and producing sand. Thus the most effective size or type of pump for a well on the beam, or the best size of flow string for a well flowing naturally or by gas-lift can be determined ultimately only by establishment of the correct pressure-differential between the producing formation and the bottom of the well. There exists consequently a direct need for the pressure data in choosing production equipment and in controlling the operating program.

(7) *Finally, through determinations of bottom hole pressures in producing wells, it is possible to calculate the amount of oil in a producing formation.* For such calculation it is necessary to determine changes of bottom hole pressure over specified periods; to know the solubility of gas at those pressures; and to have knowledge as to the rate of water encroachment. The first two considerations do not offer difficulty, but in connection with the latter there is less certainty, particularly in "water-drive" fields.

The discussion now leads to consideration of the second of the two questions mentioned in the beginning, that pertaining to the relation between flow pressure and bottom hole pressures.

Pressure as indicated by the gauge at the head of a flowing well does not constitute a true index of pressure at the bottom of the well because of several important factors, all of which make it impossible to know with certainty the weight of the column of fluid in the well, by reason of not knowing how much of the column is oil and how much is gas. Not knowing the weight of the column, the engineer does not know how much of the pressure at the bottom of the well goes toward supporting the column, and how much of it is transmitted to the well head to be reflected at the gauge.

These factors which make the weight of the column uncertain include (1) friction of the fluid in the flow string, (2) gas-oil ratio, (3) solubility of the gas, and (4) slippage, the tendency of oil to go upward in the flow string and then to slip back. These factors differ in different fields; and even if one knows the first three, an insurmountable difficulty still remains, for the slippage factor cannot be calculated. The net result is that the relation between surface and bottom hole pressures not only varies widely for different fields, but is variable also for different wells in the same field.

To illustrate the unlike relation for separate fields, it may be pointed out that wells in the East Texas field may show surface pressures of 200 to 300 pounds where bottom hole pressures are 1200 to 1500 pounds; while in the Yates field of West Texas similar surface pressures exist with bottom hole pressure around 600 pounds. In the Hobbs field of New Mexico, on the other hand, an entirely different relation is found, with some surface pressures being around 1200 pounds as against 1400 pounds bottom hole pressure.

The above considerations deal with *flowing* wells. On wells which are *shut-in*, the relation between surface and bottom hole pressure is less vague. Thus on a well which is shut in, the oil and gas in the flow string will separate, the gas rising to the top. Exactly how much space that rising gas fills is not known, however, and it is therefore impossible, as in the case of the flowing well, to know the exact weight of the column which is bearing down on the bottom of the well. The only accurate solution would be to measure the distance of the top of the fluid from the surface. But if one must go to that trouble, it is more sensible to devote the same time toward measuring the bottom hole pressure direct with one of the successful instruments now employed for that purpose.

On shut-in wells of fields where the bottom hole pressure is sufficient to support a solid fluid column to the surface a procedure which readily suggests itself is to eliminate the necessity for measuring the distance to the top of the fluid by bleeding off the gas which has accumulated at the top of the well, leaving a solid column of oil, a practice which has been employed extensively in the East Texas field and elsewhere.

The surface pressure exerted by that oil column furnishes the engineer a fair index to the bottom hole pressure, for the weight of the column may be determined with some degree of accuracy, from its total height and the average specific gravity of the oil making up the column. But here again—in regard to the average specific gravity—the engineer runs into an obstacle making an absolutely precise calculation impossible. For although the average specific gravity may be estimated rather closely, it cannot be determined with true accuracy except by actual measurement of the bottom hole pressure. Knowing the average specific gravity from an actual bottom hole pressure measurement, it is true, that value may be used on other wells. But only temporarily. For the average specific gravity changes as the bottom hole pressure of the field declines. And so the need for direct bottom hole pressure measurements is ever present.

Furthermore, the above method of finding approximate bottom hole pressure by bleeding off gas from the top of the well entails considerable time if the calculations are to have maximum accuracy. For the well must remain closed in long enough to allow ample time for complete separation of oil and gas, and even under such conditions there are dangers of error. In bleeding off the gas, for example, it may appear that all the free gas has been released due to oil showing up from the flow string, when that oil may really represent only a slug, which would be followed by more gas if the well were allowed to flow a little longer.

In view of the above discussed considerations it must be conceded that the direct methods of measurement are necessary for minute accuracy in determining the bottom hole pressures.

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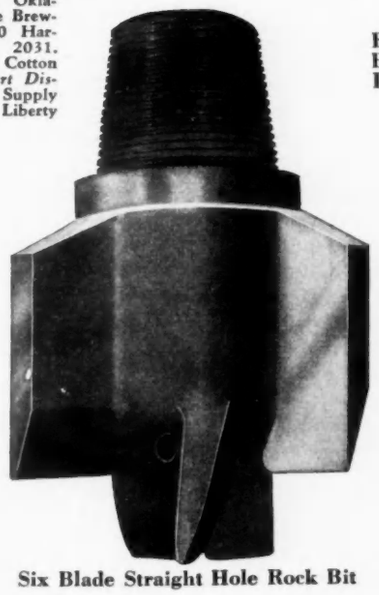
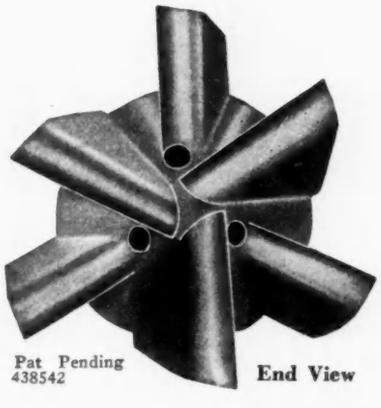
Rock Bit Lock



Six Blade Straight Hole Rock Bit

Gumbo Bit
Patent No. 1,206,488



Pat Pending 438542

End View

Fish Tail Bit

Unlocked
RB-1

Flooding Methods *and* Equipment Trends at Bradford

K. B. NOWELS
Forest Oil Corporation

ACCORDING to the author since the general adoption of "five spot" or pressure flooding in the Bradford field several years ago, there have been no great changes in operating methods, and although this paper presumably was intended for a summarization of water and air flooding practices, no recognition has been taken of the latter phase, as it was proven unsuccessful several years ago. There are several developments pertaining to water flooding and new equipment which are of interest, however, and these will be described. Paper presented before Eastern District of the American Petroleum Institute Division of Production, Wellsboro, Pa., May 14.

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Spacing

Spacing programs in the Bradford field have generally been referred to in terms of the distance between water wells or "water to water", and the space between such wells has been varied between 150 to 300 feet. The writer suggests that in spacing, the reference to "water to water" be discontinued, as it has been misunderstood and may lead to an erroneous conception of the mechanics of water flood recovery; instead, well spacing should be in terms of "water to oil," or the distance between the oil well and its controlling water wells in any type of spacing pattern. The distance between the water and oil wells is the critical distance with which we are concerned in flooding operations, and it is the distance through which the oil must be moved in the sand before it can be produced. Let the water wells come where they may, but first be certain of the spacing to be used between the oil and water.

Because of the apparent failure to consider this point, a false comparison has been made between the relative advantages of a "five spot" and a "seven spot" or hexagon. In a hexagon, with water wells at its perimeter and an oil well in the center, the spacing between water and water is the same as between oil and water, due to the hexagon consisting of six equilateral triangles. With a square, however, the situation is different, as the distance between water wells at the corners is greater than the space between oil and water. For instance, if a spacing of 200 feet between oil and water is used in a hexagon, the distance between water wells is also 200 feet due to the equilateral triangles, but a spacing of 200 feet from oil to water in a square or "five spot" gives a spacing between water wells of 200 feet times the square root of two, or 200 times 1.414 or 282.8 feet. For this reason it is unfair to compare "five spots" with "seven spots" on the basis of comparing distances between water wells.

Spacing Patent

Because of such a comparison, however, it has been claimed that the hexagon bears many advantages over the "five spot" and a patent on the use of a "seven spot," referred to as a "hepta homogenous" system, has been granted to an individual by the United States Patent Office. It is claimed that drilling a lease under a hexagonal pattern will necessitate the drilling of fewer wells, but as a matter of fact, if the same spacing between oil and water is used as would be used in a "five spot," and keeping in mind that this is the only dimension we are concerned with, the hexagon calls for more wells to be drilled than are necessary to secure all the production. In an imaginary 200 acre tract using a spacing of 200 feet between oil and water there would be 32 oil wells and 41 water wells, or a total of 73 wells for the hexagon, as compared with 86 oil wels

and 84 water wells, or a total of 128 wells for the square or "five spot"; a difference of 15 wells in favor of the latter.

If the comparison is unfairly made on the basis of a 330-foot spacing between water and water, then of course it appears that the hexagon has the advantage, because in the same 160-acre tract such a spacing would give the "five spot" program 120 oil wells, 138 water wells, or the ridiculous total of 248 wells necessary to develop the property. What operator is going to develop his property in this manner? The "joker" is, that in a 330-foot water to water spacing in a "five spot" the distance between oil and water is 240.4 feet, while the distance from water to oil in a hexagon is still 330 feet. The two are not comparable on this basis. The "seven spot" has none of the advantages of the "five spot," and has the disadvantage of inadaptability in fitting the pattern into the boundary line of a lease.

Water Travel

As stated previously, the distance between the water well and oil well is the critical one for consideration. The opinion has been prevalent that when water is pumped down a water intake well it travels away from the bottom of the well in a bank in the shape of a circle through the sand toward the oil well. Such a condition is impossible when wells are operated in pairs, and exists only when the oil well remains undrilled or shut in. Just as soon as the oil well is put to producing, a set of very definite physical laws is set in motion, the water travels toward the point of least resistance and the path of movement is that of an ellipse. The size or breadth of this ellipse is dependent upon the distance between the water well and oil well, upon the permeability and resistance of the sand, and upon the amount of pressure in existence on the face of the sand at the bottom of the well. Of course there will be irregularities due to sand conditions, and each bench of sand of different permeability will have a different size ellipse.

With present day knowledge of sand permeabilities, as revealed by numerous studies of core samples of Bradford sand carried on by the Petroleum Engineering School of Pennsylvania State College and other agencies, it is possible to determine the "sand resistance" between wells and from this to determine the pressure which will have to be used to secure the most efficient recovery from the pressure flood. In the square pattern or "five spot," a pressure must be used which will cause the ellipse to coincide at the edge of the square or line drawn between two adjacent water wells, in order to secure complete flooding out. If the operator uses a hexagon pattern, the ellipses should be made to coincide in the same manner. On this basis the same pressure used to secure complete flooding in a "five spot" must also be used in a "seven spot," and here again the advantage lies with the "five spot", as in the 160-acre tract previously discussed, one water well will flood 2.450 acres of sand, whereas in a hexagon one water well will only flood 1.393 acres. More excess water will also have to be handled in the latter.

With the knowledge concerning sand resistance, and the elliptical path of flooding when the oil well is produced, it is possible to adopt a specific spacing program which will fit in with the pressure pump equipment to be used. In other words, spacing is controlled by the operator's pressure equipment and the permeability of the sand.

Considerable data gathered from the field indicate that the Bradford sand, on the average, is of such permeability that for 1200 pounds pressure on the sand (hydrostatic plus pump), and for a sand thickness of 25 feet (effective sand) the water intake per day is approximately 34 barrels per well, although in some localities the amounts are greater and in others less. Under the conditions stated, the frictional resistance offered by the sand is approximately five pounds per square inch per lineal foot of sand. Without going into the detailed mathematics involving the derivation of the factor at this time, it may be said that the pressure drop through the sand must be multiplied by a factor of 2.0 in order to determine the proper pressure to be used in completely flooding out any particular area of sand between two wells. In brief, this factor is derived from the mathematical relationship between the long and short axes of the ellipse and the two focal points (represented by the two wells).

Graphically, if a perfect ellipse were drawn between a water well and an oil well of sufficient width to coincide with its adjacent ellipse, it would be found that its long axis is 1.404 times the distance between the oil and water well. The graphical interpretation is not the exact order of things regarding movement within the sand, however. With a radial system of fluid movement, such as exists with the wells described, the pressure varies as the square of the radius and in order to create an ellipse which will flood out all of the allotted area with the long axis 1.404 times the distance between wells, a pressure twice the amount of sand resistance must be used, because the square root of 2 is 1.404. If we speak of the distance between wells in terms of "pounds pressure of sand friction or sand resistance", then the pressure necessary to create the proper size ellipse is twice the value of this resistance. For a complete analysis of the ellipse in oil recovery, the excellent treatise of Stanley C. Herold entitled "Analytical Principles of the Production of Oil, Gas and Water from Wells," Stanford University Press should be referred to.

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Flooding Methods *and* Equipment Trends at Bradford

K. B. NOWELS
Forest Oil Corporation

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considerations a factor of 1.6 may be used. This will, theoretically, yield a 95 per cent recovery.

For example, assume that we have a spacing of 200 feet between water and oil wells in a "five spot", where the sand resistance for the 34 barrel intake is that of five pounds per lateral foot mentioned previously, then 200 x 5.0 is equal to 1000 pounds. This amount of pressure alone is necessary to overcome sand friction or resistance to fluid movement between the water wells and oil well. In order to secure an ellipse of proper breadth to assure complete flooding, the 1000 pounds should be multiplied by the factor 1.6, giving a pressure of 1600 pounds which must be held on the face of the sand in the intake water wells. The average hydrostatic pressure created by the column of water in intake wells of the Bradford field, is approximately 650 pounds per square inch, therefore 1600 — 650 = 950 pounds pressure, which must be mainatined by the pumps. In terms of permissible spacing then the following equation expresses the correct relationship:—

$$D = \frac{P_1 - P_2}{f \times 1.6}$$

Where, D = Distance in feet between water and oil well.
P_1 = Pump pressure available lbs. per square inch.
P_2 = Hydrostatic pressure on sand in water intake wells, lbs. per square inch.
f = Frictional resistance offered by sand in lbs. per square inch per lateral foot.

A value for "f" can generally be derived from a study of production and pressure records of any flood, by computing the pressure on the face of the sand of the water intake well (pump plus hydrostatic pressure) when the oil well first shows evidence of yielding fluid. This pressure is that which has overcome the sand resistance, and for all practical purposes may be used if access is not had to physical data furnished by a permeability study of the sand core.

Casual reference was made to delayed drilling, or the postponement of production of an oil well until after its controlling water wells were drilled and loaded with water. Under such a program, the water bank cannot travel in ellipses but in circles instead. This type of flood has many advantages and if properly controlled may give better recovery. Less pump pressure would be necessary, although the increased time for recovery would preclude the use of low pressures. It should be remembered that the circle form of water bank exists only when there is no path of least resistance offered by a producing oil well.

High Pressure

An important development in production practice has made its appearance in the Bradford field in the last 18 months with one of the companies converting one of its major leases to high pressure flooding and flowing. Sufficient pressure is maintained on the water intake wells to cause the oil wells to flow their production, and the latter are produced under back pressure. Ultimately pressures of approximately 2700 pounds per square inch are to be held on the sand and the oil wells produced under several hundred pounds back pressure. All pumping equipment has been taken from the oil wells and bandwheel powers discarded. Low pressure tubing has been replaced by high pressure pipe and considerable expense was necessary in properly plugging old drill holes which might dissipate both pressure and oil.

The lease has not been produced long enough under this method to definitely determine the results, but theoretically it appears that the method will work satisfactorily, although there should be no greater recovery per acre by this method over that given by the normal pressure flooding, provided the requisite pressures for securing the proper size ellipses have been used in both. Although back pressure is held on the oil wells, the fluid movement in the sand is still confined to elliptical shaped areas, and the pump pressures must be increased by an amount equivalent to the back pressure, above that necessary to secure the proper ellipse.

Equipment Trends

The current depression has caused more thought to be given economical operation in the Bradford field and the various operators have made efforts to reduce equipment and operation costs wherever possible. For example, the trend seems to be toward smaller sizes of pipe for both tubing within the well and for supply lines leading from the pressure plant to the intake water wells. The average water well very seldom takes more than 75 to 100 barrels of water per day, even in the early stages of the flood when the sand takes more water. With such amounts the velocity is not great and the friction losses are comparatively small even through one-inch pipe. Most of the pipe in use has been two-inch and three-inch but there is really no need for these larger sizes, if smaller pipe can be secured, capable of withstanding the pressures used and at a price which would warrant the change.

A year or so ago, there was considerable agitation in favor of using water filters for filtering all intake water pumped through the pressure plants. The necessity for such installations has been doubtful when it is considered that the primary purpose of a filter is to remove suspended matter within the water, and the big bulk of flooding water used at Bradford is devoid of any suspended or colloidal material. Compared with waters occurring in other oil fields of the United States this water is exceptionally pure, and outside of a small amount of iron there is usually nothing in the water which would adversely affect the water intake well. It is doubtful whether the iron can be effectively removed by the filter unless the water is first aereated in order to put the iron in oxide form. It then appears in the water as suspended matter. It is believed that most of the iron oxide sludge or rust material with which some operators have had trouble in temporarily plugging their intake wells, was picked up from the water distribution system leading to the wells, as a result of ordinary rusting or oxidation of the pipe. The worst deposit found at the bottom of several intake wells by one of the companies operating in the Bradford field occurred in wells supplied with filtered water.

This company has found it cheaper and more satisfactory to "air lift" or clean out the water intake wells by means of a two stage portable air compressor, when the wells show indications of plugging off. Several wells can be "blown" in a day from one set-up of the compressor, by using the water distribution lines as air lines. This method has proven very satisfactory and the wells, when put back on water, take their normal, expected amounts.

Instead of ordinary bare pipe the above company is now using pipe and tubing coated with a well-known brand of pipe enamel, both inside and out, which will effectively reduce the amount of oxidation now occurring. The pipe is coated at the pipe mill before delivery at a very nominal cost.

Diesel Engines

One of the most important developments within the last year or eighteen months has been the development of a sturdy and efficient, single-cylinder, two-cycle Diesel engine convertible to gas. This type of engine is reasonably priced and will unquestionably be of great demand in the Bradford field where lease gas is diminishing and the operator is confronted with the question of a fuel or power

STRENGTH

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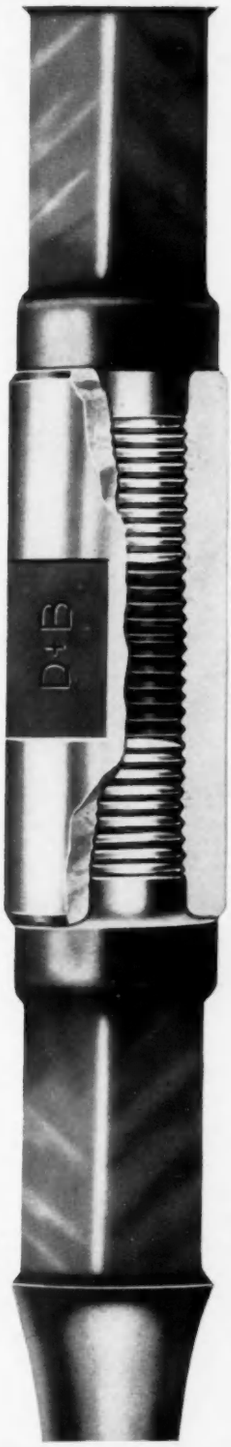

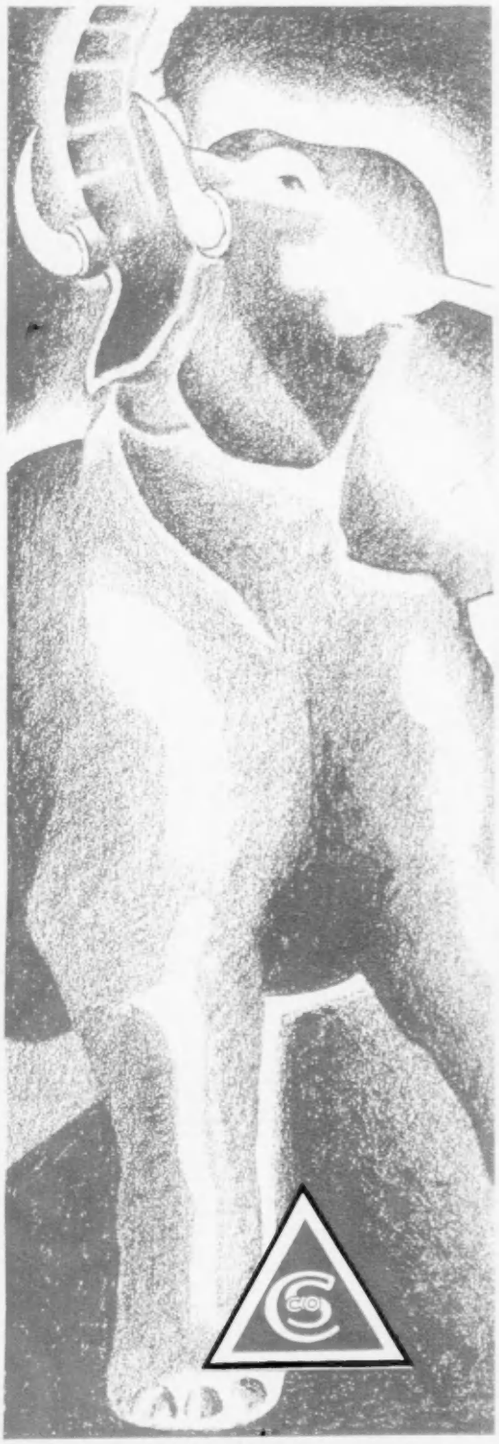

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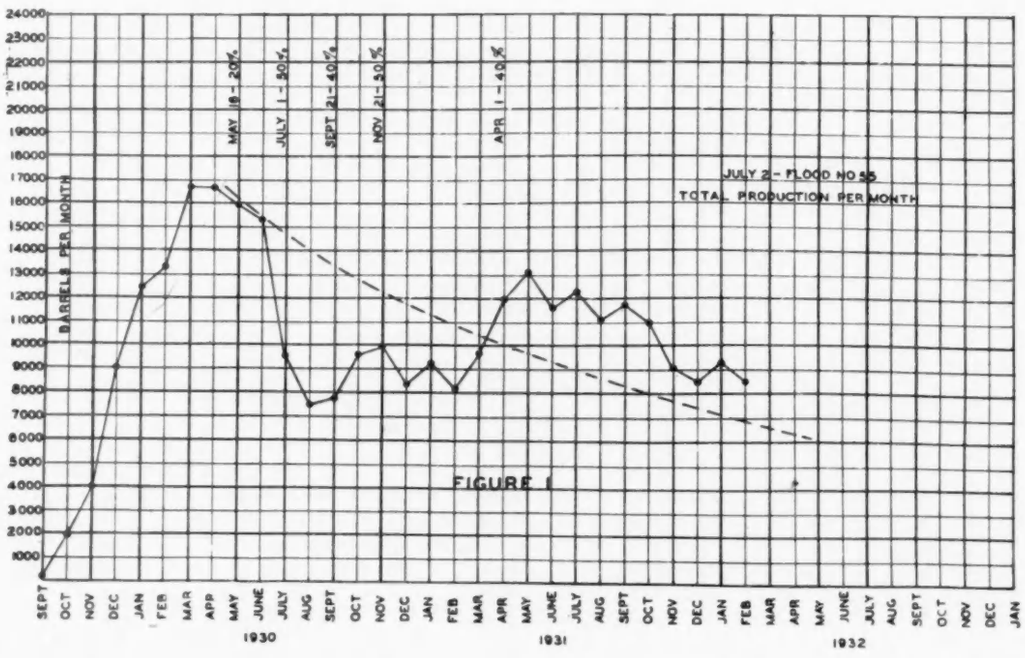

FIGURE 1

Figure 1 shows the production curve from a lease of the Forest Oil Corporation which was affected by proration and which returned the deferred production when the percentage was lifted.

Proration was responsible for the general cessation of drilling in the Bradford field, there being a decline from 1718 new completions in 1929 to 966 in 1930 and 179 in 1931. During all of the proration period there has been a steady yield in production, though in reduced quantities, which will have to be made up by the drilling of new wells, if a shortage of Bradford and Alleghany crude is to be avoided in the next year. The situation may be compared to that which existed in the Salt Creek field of Wyoming in 1923, when shortage of pipeline facilities caused the production of the field to be curtailed. When sufficient pipeline outlet was acquired, the proration of the field was lifted, only to discover that full production was already being taken.

supply for future operation. Several of these engines are now in use and are proving exceptionally satisfactory. One type, a 10¾ by 14, develops 38 horsepower at 247 rpm. and 51 horsepower at 335 rpm., being rated at 44 horsepower at 275 rpm. This engine, when converted to gas, develops approximately the same horsepower. When burning oil its best efficiency is at 47 horsepower with a fuel consumption of .375 pounds per horsepower per hour. The other engine is a 12½ by 16, developing 40 horsepower at 200 rpm. and 66 horsepower at 335 rpm. Its best efficiency is under a 43 horsepower load with a fuel consumption of .375 pounds per horsepower per hour. The following table shows a cost comparison between operating a 40 horsepower Diesel, a 40 horsepower gas engine, and a 40 horsepower electric motor.

Unit	Cost Per Day
40 HP Diesel	$2.92
40 HP Gas Engine	3.54 gas at 30 cents per 1000 cu. ft.
40 HP Gas Engine	7.67 gas at 65 cents per 1000 cu. ft.
40 HP Motor	9.71
These charges are based upon the following:	
For the Oil Engine	.4 lbs oil per HP hour, fuel oil at 5 cents per gallon. .72 gals. lubricating oil per day at 20 cents per gallon.
For the Gas Engine	12.3 cu. ft per HP hour.
For the Motor	An efficiency of 90 per cent. a KW hour charge of .011 cents. A demand charge of 98 cents per day.

In order for gas to compete with the Diesel engine it would have to sell for 24.7 cents per thousand cubic feet and electricity would have to sell at 3.3 mills per KW hour. Even considering initial investment, write-off, and all fixed charges, the oil engine is still far in the lead.

Bandwheel Powers

Although one company has discarded bandwheel powers and is flowing its oil wells, the bandwheel power will still play an important part in the development of the Bradford field. The trend is toward heavier powers, and a desire for a more thorough knowledge of the various loads a power is called upon to handle. In some cases, powers are overloaded, and in a great many instances the belts which operate them were not chosen for the loads they handle. This has caused premature failure and high belting costs. Some companies are now making use of the pull rod dynamometer in weighing all their wells and determining the loads the various powers are handling. In general, it has been found that, belt speeds are too low and changes in pulley diameters are necessary to give the most satisfactory speed for the best transmission of power from the belts.

Conclusion

The subjects discussed comprise the "high points" of recent development in the Bradford field as brought to the attention of the writer. No doubt there are other practices or items of interest pertaining to equipment which have not been dealt with in this paper. Progressive changes and improvements in the field will undoubtedly continue in an effort to more efficiently produce the remaining recoverable oil during its conservatively estimated tyenty years of remaining life.

Holmes Under Fire *as First Witness in* Texas Ouster Suit

R. W. BYRAM
Staff Correspondent

AUSTIN, TEXAS.

THROUGHOUT the past week Attorney General Allred has questioned R. C. Holmes, president of The Texas Company, in the first testimony that has been taken in the oil "ouster" suit filed last December, in which the State of Texas has asked for more than $15,000,000 in penalties and the expulsion of the major marketing companies doing business in the state.

Mr. Holmes, subpoenaed from New York, has testified at length on the plans that were made and the methods followed by his company, following which the American Petroleum Institute Code of Marketing Practices, which has been attacked by the state was installed.

The Texas Company official admitted readily that his company had subscribed to this code, had ordered its employes to abide by it, and had encouraged other companies to enforce it.

Agreement With Trade Commission

However, he contends, that the agreement was with the Federal Trade Commission, and not with their competitors in the marketing end of the industry, as charged by Mr. Allred.

Throughout the taking of testimony, which is before Commissioner Geo. E. Shelly, appointed by District Judge J. D. Moore to hear the evidence in the case, defense attorneys have objected to almost every question asked by the state, and to every answer of the witness. In a hearing such as this, the commissioner merely permits the court reporter to record objections, but does not attempt to rule on them. Defense attorneys have overlooked no opportunity to question the propriety of any of the evidence presented.

Much company correspondence of The Texas Company has been introduced to show that the inception of the code, which was in the latter part of 1929, was instigated by The Texas Company officials. Letters and telegrams relating to plans for installation of the code in this and other states were read.

Mr. Holmes has testified that he attended several meetings with various members of the American Petroleum Institute, which sponsored the code as he was chairman of the committee which prepared it for submission to the Federal Trade Commission.

It was disclosed that W. O. Crain, The Texas Company attorney at Houston, had met with a group of marketers there, to consider the installation of the code, and that he had met with strong opposition from some of the marketers. They insisted that the code be presented to the Attorney General of Texas for his opinion, and this was done. However, that officer refused to pass on the matter, and the organization proceeded without his approval. Numerous letters and telegrams relating to this situation were submitted and attached to the record.

Appearance of Evil

Introduction of an inter-office communication ordering The Texas Company men to remove from their files "any correspondence which has even the appearance of evil," brought attorneys to their feet with the demand that this be stricken from the record.

The letter from H. W. Dodge in New York to J. S. Leach in Houston, referred to an advance in roofing prices, said:

"Please refer to Mr. J. W. Reyall's telegram of April eighteenth to Mr. J. P. Gruet, regarding the matter of advancing roofing prices.

"The telegram is very badly worded and all through it leaves the impression that we are in a combine which has fixed prices and will, on future dates, advance them still further.

"I have seen other telegrams about this roofing situation which have been more or less along the same line.

"I think the matter is something that you and Mr. Royall should both watch very carefully and see to it that our files are freed of any correspondence which has even the appearance of evil."

A flare-up between the witness, Mr. Holmes, and Attorney General Allred occurred on Thursday, when Mr. Allred repeated a question which Mr. Holmes had said he could not answer.

"I," announced Mr. Holmes in a determined voice, "told you I did not know. That is the second time you have asked the question. I am going to caution you to be careful about your questions. I have tried to be civil and I ask you to be civil, else I will refuse to answer your question."

The question involved the code rule about commercial discounts.

Another wordy battle with attorneys occurred when Allred began the introduction of evidence procured at a court of inquiry when Holmes appeared before the legislature in Austin last summer.

C. L. Black, local attorney for The Texas Company, objected on the grounds that evidence so procured can be used only in criminal actions. Attorney General Allred had previously announced that this was strictly a case involving civil law. It was also pointed out that the witness had testified at this hearing without the advice or assistance of his personal attorney, and that evidence so procured could not be presented in this case.

Mr. Allred refused to permit defense attorneys to see the evidence, and lawyers for the other defendants made numerous objections including that the laws authorizing courts of inquiry were unconstitutional; that they were void under the state constitution which forbids special laws; that the transcript could not be used because the attorney general refused to give defendant attorneys an opportunity to see it.

Appearing with Mr. Holmes in Austin were C. B. Ames, counsel, Col. H. T. Klein, and W. H. Dodge.

Introduction of evidence of lobbying by The Texas Company officials, notably Attorney Jacob F. Wolters, caused another furor in the trial on Friday. The state attempted to show that the price of gasoline was not advanced until bills which would have taken filling station outlet away from the major companies were defeated. Holmes stated that the company has lost money in Texas for two and one half years, and that they desired to increase prices to make the business profitable. He charged that unprofitable conditions in Texas were due to tax evasions, which he said Allred could stop. This was resented by Allred, and an altercation between Judge Ames and the attorney general ensued. Defense protested against the introduction of this nature and charged that Allred is using it for publicity.

Oklahoma City, Okla.—Champlin Refining Company has placed an order for the immediate erection of two 80,000-barrel capacity steel tanks to be used in connection with its production and purchases of crude in the Oklahoma City field.

MEN IN THE INDUSTRY'S NEWS

JIMMIE M. CHARLTON, veteran employe of the leasing and scouting department of The California Company, has been transferred from the company's Texas headquarters at Dallas to San Antonio, where a district land and scouting office has been established to cover activities in the Southwest Texas district. Charlton will be in charge of scouting and leasing activities in the district. Heretofore, The California Company (Standard Oil Company of California) has confined its development work in the Southern Division to West Texas and Southeastern New Mexico.

G. D. BEAUCHAMP of Laredo, Texas, head scout of that district for Humble Oil & Refining Company, will be confined to bed for a couple of weeks as the result of an appendicitis operation performed May 11.

THOMAS READ KEHOE of Houston, closely associated with G. W. Strake in work concerning discovery of the new Beach area of Montgomery County, was killed May 9, when his car collided with a truck about eight miles south of Conroe, on the Houston-Conroe highway. Mr. Kehoe is survived by his father, Thomas Kehoe; three brothers, Lawrence, Elmer and A. J.; and three sisters, Mrs. G. W. Strake, Mrs. C. L. Fitzgerald, and Mrs. Charles Atcheson.

A. H. COLLINS, sales manager for the oil well division, Chicago Pneumatic Tool Company, has recently completed a trip through the Rocky Mountain states.

W. A. TROUT, vice president of Emsco Derrick and Equipment Company, left Los Angeles headquarters May 10, for the Mid-Continent, where he will spend the next two weeks. He will make stops at Houston and other points.

PAUL N. BOGGS, vice president of Union Oil Company of California, has resigned as chairman of the Statewide Curtailment Committee. He will devote all of his time to the interests of his company.

S. C. STATHERS, chief geologist for Standard Oil Company of Louisiana, who retired from active service May 1 after 25 years service, was honored at a banquet May 11, given by the Shreveport Geological Society, of which he is immediate past president. W. F. Chisholm, president of the society, was toastmaster. Speakers were: Dr. A. F. Crider, S. P. Borden, L. A. Barton, C. C. Clark, J. Y. Snyder, past president of the American Association of Petroleum Geologists, E. A. Stiller, George Stevens, Walter Hopper, F. L. Miller, W. V. Jones, and Mr. Stathers. Mr. Stathers was presented with a pipe as a token of esteem by his fellow geologists. After a visit of several months in West Virginia, his boyhood home, Mr. Stathers will return to Shreveport to reside. He entered the employ of the Standard Oil Companies in Burma, saw service for them in the British East Indies, and was doing geological work in Rumania at the outbreak of the World War. He had been with the Standard Oil Company of Louisiana 15 years.

H. P. KEMP
Farm boss for the Humble Oil & Refining Company at Luling, Texas.

W. L. WIGLE, inventor of several oil equipment tools which were marketed a few years ago by the firm of McBryde and Wigle, died at his home in Compton, May 3, after a short illness. He was 63 years old.

P. V. TUCKER, driller for the Attock Oil Company at Khaur, India, is spending his vacation in California.

THEODORE MARTIN, mining attorney and for years a vice-president of California Oil and Gas Association, passed away at his home in Los Angeles May 3 after a lingering illness. He leaves a widow and two sons.

E. P. SENIOR, field manager for Cia Ferrocarilera de Petroleo, a producing subsidiary of the three major railroads of Argentina, has been visiting in California on a combined business and pleasure trip. He left California on May 15 for New York and London, and will return to Buenos Aires later in the year. Mr. Senior lives at Comodoro, Rivadiva. He is accompanied by Mrs. Senior.

W. H. COOLEY of Bakersfield, California, chairman of the special advisory committee which is working on an interstate oil pact, is now in Washington, D. C.

H. W. PULLMAN, of the Burma Oil Company field staff, was a visitor in Houston Wednesday en route to California.

San Antonio, Texas.—Three producers, one from the shallow sand and two from the deeper horizon, were completed in the Escobas field of Zapata County last week.

The deeper wells were S. R. & C. Oil Corporation's Montemayor 9-D, block 9, share 64, which is flowing around 400 barrels daily from 1475 feet. O. W. Killam's Medina 6, share 34, Fansler partition, is making 100 barrels from 1460 feet.

Trevino Oil Corporation got a 35-barrel well in Trevino 15-A, located on block 15, Survey 412.

Minority Report *Attempts to* Strike Out Tariff Measures

WASHINGTON, D. C., May 12.

A BITTER fight to have the excise taxes on imported oils, coal, copper, lumber and rubber stricken from the revenue bill was initiated Thursday with the submission by members of the Senate Finance Committee of a minority report signed by Senators Walsh of Massachusetts, Harrison of Mississippi, George of Georgia, Costigan of Colorado and Hull of Tennessee, "emphatically dissenting" from the inclusion of these items in the measure.

Adoption of the import taxes, the minority asserted, is "utterly indefensible," the belief being expressed that "it is unsound in principle and dangerous in practice to attempt to make the present revision of our domestic tax laws the vehicle for tariff tinkering. Furthermore," it is added, "the prospective revenue yield of these proposed tariff taxes is negligible."

Benefit to the domestic producers is doubtful, it was declared, but the taxes might well adversely affect domestic consumers. No argument has been advanced in favor of these taxes "that was not presented and rejected by congress in framing the Smoot-Hawley tariff act of 1930," the minority charged.

"The proposed duties on petroleum products would compel the consumers in this country to pay $73,212,000 annually in increased prices for fuel oil," the report asserted,"

On the question of the effect of the tariff on the price of oil and gasoline to the American public, since the domestic production of gasoline is so far in excess of domestic requirements and the imports of gasoline so relatively trivial (13,621,000 barrels of gasoline were imported in 1931, as compared with a domestic consumption of 397,905,000 barrels), the extent to which a tariff on gasoline will increase the price to the domestic consumer is perhaps debatable."

Opponents of the bill in the form in which submitted by the Finance Committee this week will center their attack upon the import taxes, the "breaking" of which would pave the way for other changes. These taxes are considered the weakest feature of the measure, and their elimination would pave the way for proponents of the sales tax to make another effort for the adoption of that plan as a substitute for the numerous excise taxes which the house inserted when it defeated the manufacturers' tax.

It is believed that there has been a considerable change in sentiment regarding the sales tax since its rejection by the House made it necessary to impose individual taxes on a number of industries, all of which, without exception, have declared their preference for a general sales tax. The original House bill provided for an import oil tax as part of the sales tax provisions and retained the former when the latter was eliminated, and even if the Senate rejects import taxes and substitutes the sales tax, it is believed the oil levies may still be retained. If the assault on the import taxes which will be made next week fails of success, it is probable that few changes will be made in the measure by the Senate.

An amendment to the revenue bill providing for a tax on beer from which, he declares, from 375 to 500 million dollars can be secured, has been introduced by Senator Bingham of Connecticut. By adopting this tax, the senator asserts, it will be possible to eliminate or scale down other levies, including a reduction from four to two cents per gallon in the tax on lubricating oil.

Seeking to Reduce Imports 5½ Per Cent of U. S. Output

Washington, D. C.

CURTAILMENT of oil importations to 5½ per cent of domestic production was urged before members of the Senate Judiciary Committee by representatives of the Oil States Advisory Committee May 10, in giving approval to a new bill introduced for this purpose in the Senate by Senator Thomas of Oklahoma.

Speaking for the committee, Warwick Downing of Denver pointed out that the import restriction is provided for in a revision of Senator Thomas' legislation providing for joint federal and state action toward conservation, which was the subject of a hearing last week.

If limited to the proposed 5½ per cent, Downing declared, imports would rise or fall in conformity with production activity in the United States. It is proposed to apportion the imports on the basis of 55 per cent crude, 16 per cent gasoline and 29 per cent other petroleum products.

The oil men propose, as meeting some of the opposition to their restriction plan, that in case the Tariff Commission determines that the average price for domestic crude petroleum exceeds the average cost of its production, including therein a reasonable profit, the Federal Oil Conservation Board would be authorized to permit additional importations until the price of domestic crude no longer exceeds cost plus reasonable profit, which, the committee was told, would discourage profiteering.

To prevent a mad scramble among importers to get their crude into the country, it is proposed to create a system to provide for orderly entry of imports. It is proposed that the oil board provide for apportionment among importers of a fair and ratable share of allowable importations, the Secretary of the Treasury, in advance of importation, to issue certificates admitting the oil.

The oil board would be empowered to allow additional imports for the purpose of re-export (including the furnishing in American ports for consumption of vessels in foreign commerce) if such may be done without injury to the American market. This is to prevent too heavy a burden falling upon shipping. But importations would be decreased by the board in proportion to any decrease in exports, to prevent diversion of import oil to the export trade to defeat the purpose of the bill, since while last year's imports were about 87 million barrels, exports totaled about 124 million barrels.

The need for definite provision for the restriction of oil imports was stressed before the committee, it being pointed out that the excise taxes on imported oil carried in the new revenue bill are primarily for the purpose of raising revenue and opinion differs widely as to the effect of these levies upon the volume of imports.

CALIFORNIA FIELDS

Permits to Drill Show Big Increase But All Proposed Tests Will Not Be Drilled. New Zone at Belridge.

BRAD MILLS, ***Staff Representative, Los Angeles, California***

Big Producers Do Most Curtailing in California

Los Angeles.—Some of the leaders of the opposition against the Sharkey Oil Stabilization Act, which went down to defeat at the recent election have voiced their desire to support actively the voluntary curtailment plan in an effort to improve the economic stability of the industry.

Their move to support actively the curtailment program is in line with a plea issued by Governor James Rolph, Jr., for all oil producers to forget the bitterness of the recent campaign and work together to conserve the oil and gas resources of the state.

A majority of the leaders have not only agreed to bring their own production within the limits of the voluntary curtailment program but also offered to canvass the recalcitrant producers in an effort to persuade them to assist the conservation movement.

Following the meeting Mr. Anderson reported this latest development to all producers already in line and further urged them to make a whole-hearted effort to bring the state's output down to the allotment set by the General Committee of 456,700 barrels daily.

Official production records of California companies for March show that eighteen of the largest companies curtailed 58.32 per cent of their aggregate potential output, as against 25.17 per cent curtailed by the rest of the operators of the state.

This group of eighteen leading companies had a total of 10,987 wells, representing 67.68 per cent of the state's total output and 92.70 per cent of the total curtailment, as compared with 5247 wells representing 32.32 per cent of the total for the rest of the producing companies whose curtailment represented only 7.30 per cent of the state total.

Active support of the voluntary curtailment program by the leaders of the opposition to the Sharkey Bill will greatly simplify readjustment and stabilization within the industry, Mr. Anderson declared, and the political fight over the measure has served to bring home to all operators the necessity for some united effort to prevent a complete break-down of curtailment, and consequent further reduction in crude oil prices.

Bakersfield, Calif. — Belridge Oil Company's No. 64-27, a deep test in the North Belridge field, blew in May 10 making about 60,000,000 cubic feet of wet gas from 8060 feet to prove an entirely new producing zone below, or at the base of, the Temblor formation. The well sanded up soon after blowing in, and a liner is being run for formal completion. A total of 2960 feet of sandy formation was cored below the top of the Temblor, but it is not definitely known whether the hole is bottomed in the Miocene or the top of the Eocene.

Los Angeles.—An advance report on the number of permits issued for new wells during the week shows 25 notices to drill. This is the largest number of permits issued during one week since November, 1930.

Give Out Nothing on Deep Test at North Belridge

Bakersfield, Calif.—Belridge Oil Company is making a production test in No. 64-27, a very important deep well in the North Belridge field, having drilled to 8065 feet to reach a formation below the Temblor zone. The company has withheld all information concerning the deepening of this well, but it is known that showings near bottom were good. A string of 8¼-inch casing was cemented at 7450 feet.

Geologists differ on the age of the formation at the bottom of the hole, but it is possible that drilling stopped in the Kreyenhagen shale. The Temblor is found around 5000 feet, so it is evident that this formation has been passed. Production in the Eocene, just below the Kreyenhagen shale, would be an important development, and would increase the potentialities of such fields as Kettleman Hills. Few fossils were found below the Temblor to identify formations.

The North Belridge field is already a good producer in the Temblor zone.

Make Try for Temblor In Shale Hills District

Bakersfield, Calif. — Rio Grande Oil Company has started a wildcat test in the Shale Hills district on Section 7-27-19, and will try for production in the Temblor formation. The company recently leased nearly 4000 acres, of which the greater part is government permits.

Standard Oil Company drilled a well to 4050 feet in the district 17 years ago, but in the absence of coring could easily have mudded off production. Many shallow wells have been drilled over a wide area, but they were more in the nature of validating holes than actual tests.

Middle Dome Discovery Killed to Drill Deeper

Coalinga, Calif.—Standard Oil Company of California has killed No. 6-29V, first successful producer on the Middle Dome at Kettleman Hills, and will drill deeper to test the possibilities of the Temblor formation. This well, which may be regarded as the official discovery well of the Middle Dome, produced an average of 1250 barrels of 53 gravity oil and about 36,000,000 cubic feet of gas from 7825 feet, although the bottom of the hole was at 7885 feet. The use of large beans did not increase production much, but smaller beans and higher pressures did increase the gravity of the oil to nearly 58 degrees. A small amount of free water was produced with the oil, but such an occurrence was expected. Failure of the well to increase its flow with larger beans indicated that it would require more formation to raise production. Less than 300 feet of the Temblor was included below the 8⅝-inch shutoff at 7885 feet.

Proving of the Middle Dome was a surprise to the very few geologists who thought that commercial production would not be otained in this part of the field, but was a confirmation of the belief of most geologists that it would produce satisfactorily. The producing acreage probably will not exceed 2000, and may run even lower. Standard Oil Company of California controls about one-half of the structure, but may have a little less or more, as development will prove.

North American Oil Consolidated is drilling at 9325 feet in Elsinore 1, North Dome edge test which produced

oil and water above 9000 feet. The company's Blauvelt 1, also an edge test, is shut down at 9500 feet. Elsinore 1, being better located, is the logical well to complete first.

Petroleum Securities Company has milled for several weeks on junk in Burbank 1, Middle Dome well, which helped to prove the structure, but the hole is in very bad mechanical condition and may never be completed.

Dominguez Drilling in Prospect of Being Curbed

Los Angeles.—Drilling at Dominguez may be curbed by sentiment in fields which have adhered to the curtailment program, but no definite plan of action either way has been prepared. The leading operating company in the field insists that the landowners are responsible for the steady stream of completions of the past eight months, while others claim there are two sides to the question. It is known that the leaseholders have been pushing Union Oil Company to develop their holdings, and the former has placed the blame on them for the dozen completions. It has developed that several leases call for abandonment at the end of 20 years, of which nearly half have passed.

Shell Oil Company has deepened Reyes 40 to 5217 feet and is completing the well as one of the deepest in the field. Initial production is estimated at 1600 barrels. This company has been less active in the field than the leading operator, and has not been as fortunate in its completions.

Associated Oil Company owns some good acreage in the field, but has been satisfied to drill a well or two and to deepen two or three more.

Rearranging Plans For Proration Continuance

Los Angeles. — Continuation of voluntary curtailment of crude oil production in California was indicated this week when Neal H. Anderson, State Oil Umpire announced that a plan was under way to resurvey the present menace of over-production.

There are many details incidental to the working out of a definite re-arrangement of a voluntary method of control, but it will be only a few days before a definite program will be completed and presented.

In announcing the proposed meeting of operators, Umpire Anderson issued the following statement:

"The umpire's office is working on a revision of the plan of proration with the objective of rectifying the objectional conditions which experience has revealed with the present plan and to take care of changed conditions in the industry which have arisen since the last plan was formulated in December, 1931.

"It is expected to have this plan completed within the next few days and the umpire's office will call meetings in the various fields to submit and perfect the plan of offset proration which all operators will be asked to attend.

"In this new proration plan it is contemplated to provide for offset well proration, rather than lease proration."

Under the proposed plan, field representatives, rather than company representatives, will constitute the working committee on curtailment. The number will be reduced to 12 from 35. Each district will be more equitably represented.

Yolo County Wildcat Going Deeper After Water Shutoff

San Francisco.—Pacific Northern Gas & Oil Company has obtained a water shutoff in Guinda 1, a wildcat test on the Nigger Heaven Dome in Yolo County, about 115 miles north of San Francisco, and will deepen the well from 2500 feet in search of a gas zone. A heavy flow of salt water had prevented progress under the old management, but a string of 8¼-inch casing was cemented near bottom to shut off this intrusion. Pacific Northern Gas & Oil Company recently purchased all of the holdings of George F. Getty, Inc., but a small parcel and will try to develop a supply of natural gas. Standard Oil Company holds a large block near the well now being drilled, while Union Oil Company and Ohio Oil Company also have acreage nearby.

Permits Reflect Increase In California Wildcatting

Los Angeles.—The continued increase in the number of permits issued for new wells in California and the wider distribution of tests over the state are considered very favorable developments and partially confirm the belief that wildcatting in the future will be more extensive than during the past year. Eighteen notices to drill were filed with the state during the past week, bringing the total for the year to 109. This number is still below the total at the same time last year, but the increase during the past month has been encouraging.

Several operators have been awaiting what they considered the "turn" before starting additional wells.

Notices to drill indicate that these producers believe that the immediate future holds more than the immediate past.

Permits to drill in proven fields exceeded those issued for drilling wildcat wells, but many wells started during the past three weeks have been located in districts which have had little drilling. This mild revival of operations has encouraged the average oil company stockholder and the equipment manufacturer. Starting of wells by closely held and privately financed companies points to a release of funds which have heretofer been unavailable.

Playa del Rey Extension Boosts Deeper Zone

Los Angeles.—Completion of Union Oil Company's Del Rey 4 as a 1500-barrel producer at 5950 feet has slightly extended the Playa del Rey field and further emphasizes a margin in favor of the deeper producing zone. The well is located southeast of the former producing section and came in ahead of schedule while the crew was landing a liner. The importance of the discovery does not lie in its importance, but rather in the fact that a fair production may be obtained outside of the present limits. The oil was 22.1 gravity and gas production was around 10,000,000 cubic feet.

The Playa del Rey field has shown the usual surprises and disappointments, in that it has been a steady producer without a single outstanding completion. The largest well in the field had an initial production of about 4000 barrels, and the average initial was very low. The discovery well was completed in the deeper zone at 6200 feet, but activity shifted to the shallower zone around 4000 feet. More recently drilling for the deeper zone has been resumed, and most of the future completions will be finished in this formation.

Most operators have not made money in the field, with a large percentage of the companies in receivership. A long section of beach has been stripped of whatever beauty it had, but it will be a difficult matter to force the vacation of the district.

Mesa Field With New Line Not to Drill Extensively

Santa Barbara, Calif.—A few more wells will be drilled in the shallow Mesa field, just outside Santa Barbara, but there is little likelihood of more than a very small production in this field. Recent completion of a pipe line to handle the oil has encouraged some of the small operators to start wells.

The field is a small monocline against a fault, but the closure was not enough to warrant a good accumulation.

Three years ago large and small op-

erators rushed in to develop what promised to be a good shallow field. About 50 wells were drilled after the discovery well was completed, but hardly a satisfactory completion was finished. Production was very spotted and scarce, and the closure proved to be disappointing. Even the discovery well went to water rapidly, and soon all of the leading companies abandoned the district. A few small pumping wells were completed, but the field has never been a factor in Santa Barbara County.

Careful drilling and fortunate shutoffs might lead to commercial production in some sections of the field, but the shallow zone probably will never amount to much.

More Locations Than Tests In Southern California

Los Angeles.—The making of several locations for wildcats in Southern California which may not be drilled for some time was probably prompted by the belief that passage of the Sharkey Bill might limit operations of this nature. In one or two instances two or three locations were made, where one would have sufficed.

Three locations were recently made near Bell by F. G. Baldridge, but it is understood that only one well is required by June 1. Indio Hills Exploration Company made a location for a test on Section 35-3s-3e, in Riverside County, but it is doubtful whether the well will be started for some time. Very little drilling has been done in this district, and geologists have frowned on the area for a long time.

Several locations have been made in the Newhall district, but this semi-proven area has never amounted to much, and little is expected of it. The shallow production appeals to the operator who is satisfied with this type of producer, but the major operator has done no work there for years.

Buttonwillow Gas Reserve Awaiting Its Opportunity

Bakersfield, Calif. — Buttonwillow operators are gradually adding to their developed gas reserve, but no gas is being sold at this time. The dominant position of Kettleman Hills, and the fact that failure to use the gas would lead to waste have forced the Buttonwillow field to await its turn to serve the consumers in various cities. This arrangement will perhaps work for a better future supply, and it may be the best thing to complete and shut in Buttonwillow wells under present conditions. It does not impose a heavy economic burden on Buttonwillow operators to shut in completed wells, but they will certainly be entitled to their share of the market within a reasonable length of time.

Buttonwillow gas is a dry product, but it has a high heat value and is ideal for fuel requirements. A large pipe line serves the field, and facilities are otherwise complete for full deliveries.

Milham Exploration Company is the principal operator in the field, and has developed a large reserve. The shallow zone produces best and the cost of completing wells is not excessive. A shifting and powdery sand has caused some trouble where the perforations have been large, but through a combination of liners, most of this trouble has been overcome. The field is located so that it may serve both Los Angeles and San Francisco.

California Field Development

Completions

Company, Well and Location	Initial Production Bbls.	Depth
BUTTONWILLOW—		
Milham Exploration Co., S. P. Co., 9-28-23	¶15	2670
DOMINGUEZ—		
Associated Oil Co., De Francis 6	400	4465
ROUND MOUNTAIN—		
Archie S. Mayes, No. 2	200	1560
VENTURA AVENUE—		
Associated Oil Co., Lloyd 109	1100	7375

New Operations

ELWOOD—Barnsdall Oil Co., No. 88-8, 16-4-29.

FRUITVALE—Tarr and McComb Oil Co., No. 1, 23-29-27. Western Gulf Oil Co., Price-Stewart 2, 22-29-27.

HUNTINGTON BEACH—Ben F. Mun, H. B. 14, 34-5-1; H. B. Fee 16, 34-5-11. S. S. Wold, No. 5, 35-5-11.

INGLEWOOD—Standard Oil Co., L. A. I. 1-69, 17-2-14.

LONG BEACH—R. R. Bush Oil Co., Barnes 4, 19-4-12. Beach Pet. Corp., Harlow 2, 19-4-12.

MESA—Peter Sorenson, Sorenson 1, 28-4-27. La Mesa Oil Corp., Ross 1, 28-4-27.

SIMI—H. C. Turnham, No. 3, 6-2-17. Chas. and Hoxie Anderson, Marr 11, 36-3-18.

SANTA BARBARA COUNTY—Charles F. Simonds, No. 1, 9-4-28.

TULARE COUNTY—Tarr and McComb Oil Co., No. 1, 23-29-27.

VENTURA COUNTY—H. C. Turnham, No. 1, 7-2-17.

ROUND MOUNTAIN—California Western Oil Co., No. 8, 7-28-29.

KETTLEMAN HILLS — Standard Oil Co., No. 67, 19-21-17.

Wildcat Drilling Report

(Wells shut down not included)

NORTHERN CALIFORNIA

KERN COUNTY

BLACKWELL'S CORNER — F. Fowler's Lincoln 1, 15-26-19, dr shale 638 ft.

BUTTONWILLOW — Graham-Loftus Oil Corp.'s Carmel 1, 20-27-22, fsh for drill pipe 6626 ft. Milham Exploration Co.'s S. P. L. 41-7, 7-28-23, lcn. Wilshire Oil Co.'s Salisbury 1, 7-29-24, sd 6990 ft.

DEVIL'S DEN—Totem Oil Co.'s No. 1, removing equipment. C. B. Gauthier's No. 1, 24-25-18, rigging rotary.

McKITTRICK—T. H. Purman's No. 1, 28-29-21, lcn. Welport Oil Co.'s No. 8, 26-29-21, 8⅝ inch cas cmt 1050 ft. td 1299 ft.

SEMITROPIS — Fullerton Oil Co.'s Core Hole D, 14-27-23, dr shale 600 ft.

SHALE HILLS—Rio Grande Oil Co.'s Utting 1, 7-27-19, rigging rotary.

WHEELER RIDGE—Barnsdall's K. C. L. 1, 15-11-20, dr shale 6122 ft.

SANTA BARBARA COUNTY

CARPENTERIA—Texas' Community 3-1, 33-4-25, sp.

COAL OIL POINT—Bolsa Chica Oil Corp.'s Permit 191-3, lcn. Equity Oil and Royalty Co.'s Permit 159-1, co 2110 ft, will deepen.

GOLETA—General Pet.'s More 1, 21-4-28, fsh 4533 ft.

LOS ALAMOS—Barnsdall's Careaga 1, 31-8-33, dr shale 4100 ft. N. S. Wilson's Orena 1, 2-7-33, dr shale 4750 ft.

SANTA MARIA—Western Gulf's Bradley 1, 5-9-33, dr shale 9075 ft.

SANTA ROSA ISLAND—Standard's No. 1, roads completed to lcn.

VENTURA COUNTY

CONEJO—American Oil Co.'s Powell 1, 33-2-20, co 1600 ft.

HOPPER CANYON — Bardeen Pet. Co.'s Lankershim 2, 13-4-19, dr hard sand 1860 ft.

OJAI—A. N. Macrate's Cosmon 1, 27-4-23, rig. Magu Synd.'s Utt 1, 17-1-21, fsh for drill pipe 5809 ft. Torrey-Ventura Oil Co.'s No. 1, 32-4-18, dr shale and hard sand 2428 ft.

RINCON—Woodruff Oil Co.'s Woodrow 1, 4-3-24, dr shale 1650 ft.

SANTA PAULA—E. M. Lerperance's Boosey 1, 31-4-20, lcn.

SIMI—C. Anderson's and H. Marr's No. 11, 31-3-17, lcn.

MISCELLANEOUS

KING COUNTY—Tulaco Oil Co.'s No. 1, 17-22-22, rig. H. C. Turnham's No. 1, 23-20-22, lcn. Knudsen and Schmidt's Avenal 1, 36-23-17, co 5620 ft. Eagle Oil and Gas Co.'s No. 2, 15-23-20, dr shale 865 ft. Lacal Natural Gas Co.'s No. 1, 32-22-20, dr shale 150 ft. Tulare Basin Gas Co.'s No. 2, 2-23-19, lcn. Glen Woodward's No. 1, 32-22-20, dr shale 305 ft.

SAN LUIS OBISPO COUNTY—Emerich Oil Co.'s Holland 1, 22-32-22, dr shale 825 ft. Kent and McDonald's No. 1, 3-32-22, re-dr 400 ft, td 2675 ft. Trav-El Oil Co.'s No. 1, 7-32-22, deepening from 2400 ft.

STANISLAUS COUNTY—Rushing Oil and Development Co.'s No. 1, 20-3-13, dr hard sand 2600 ft.

TULARE COUNTY — Gravity Exploration Co.'s No. 1, 11-24-23, running cas 2210 ft; No. 2, 11-24-23, lcn; No. 3, 11-24-23, lcn; No. 4, 35-22-23, lcn; No. 5, 2-23-23, lcn. Delano Oil Co.'s No. 1, 2-25-26, lcn. Kingsburg Exploration Co.'s Muller 1, 29-16-23, dr shale 2650 ft. R. H. Ingraham's No. 1, 24-22-27, lcn.

YOLO COUNTY—Pacific Northern Gas and Oil Co.'s Guinda 1, 23-12-3, 8⅝ inch cas cmt 2517 ft.

SOUTHERN CALIFORNIA

BELL—F. G. Baldridge's Espitallier 1, 31-2-12, lcn; Glasscock-Woods 1, 29-2-12, lcn; Specht 1, 29-2-12, lcn.

CALABASAS—L. W. Rucker's No. 1, 26-1-17, fsh 900 ft.

FULLERTON—Orangethorpe Corp.'s Skinner 1, 32-3-10, dr shale 900 ft.

HERMOSA BEACH—Tulsa Oil Co.'s Hermosa 2, 6-4-14, co 3140 ft.

LYNWOOD—W. L. Jones' Graham 1, 31-2-12, co 1570 ft.

NEWHALL—W. T. Ball's Newhall 1, 34-3-16, sp. Ora Negra Dev. Corp.'s No. 1, 14-3-16, lcn. Southern California Drilling Co.'s Heedham 1, 13-3-16, dr shale 505 ft. Superba Pet. Corp.'s No. 1, 11-3-16, sd 100 ft, will deepen.

NEWPORT—Nucil Co.'s Banning 1, 29-6-10, rigging rotary 1975 ft.

PLAYA DEL RAY—Cooperative Development Co.'s No. 1, 26-2-15, dr shale 515 ft.

PUENTE Hills—Eldorado Oil Co.'s Baird 1, 30-2-9, dr hard sand 2688 ft.

SAN FERNANDO—Willard Marble's Deer Lake 1, 6-2-16, co 1310 ft.

WILMINGTON—Walter I. Barcus' Lupie 1, 28-4-13, rig.

RIVERSIDE COUNTY—Indio Hills Exploration Co.'s No. 1, 35-3-3, lcn.

SAN DIEGO COUNTY—Itasca Pet. Co.'s Otay Mesa 1, fsh for core barrel 1565 ft.

OKLAHOMA FIELDS

Big Oklahoma City Wells Increase After Few Hours of Flowing; Meter Idea Getting Attention.

FLOYD SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Third Oklahoma City Well Shows 100,000 Potential

Oklahoma City.—The Oklahoma City pool now has its third well which calculated on a 24-hour basis would have a potential of more than 100,000 barrels. Grison Oil Company's Turner 1, NW SW SE Section 34-12n-3w, in the northern portion of the pool. The test was bailed down during the week and during the first hour produced 4302 barrels of oil and 100 barrels of sand. Nine-inch casing was set at 6330 feet on top of the Wilcox sand and drilling carried to 6530 feet. Calculated at this rate it would have a 24-hour potential of 103,248 barrels, placing it among a select group which have exceeded the 100,000 barrels mark.

The history of most of the largest wells in the Wilcox area, particularly where large amounts of sand are made initially, is that hourly production increases for a few hours and Turner 1 probably will show a greater gauge per hour when it is opened for further testing. This tendency to increase in rate of flow is probably due partly to cleaning out of loose sand and to enlargement of the hole as the looser sand comes from the walls.

Other completions of the week were as follows: Indian Territory Illuminating Oil Company's Lawrence Place 5, SE SW NE Section 15-11n-3w, 2170 barrels in four hours from Wilcox sand at 6366 to 6451 feet; Phillips Petroleum Company's Everest 2, NW SE NW SE Section 15-11n-3w, 955 barrels in three hours from 6441 to 6480 feet; Denver Producing & Refining Company's Larkins 1, SW NW NE Section 22-11n-3w, bailed down and flowed 185 barrels in 40 minutes when it bridged, but upon later opening the production increased to 500 barrels in 30 minutes from a total depth of 6535 feet.

Oklahoma, City.—Skelly Oil Company's Ledbetter 1, SE NE NW NE Section 22-11n-3w, recently reported cutting five per cent water, has been opened several times within the last two weeks. Gauging after each test has shown a declining amount of water until on the latest it is reported practically free from cutting. One report stated that the well had been making salt water while another stated that it was fresh water. In the latter case the decline in amount of water could easily be explained since it would be drilling water which had penetrated the sand and would exhaust after the well had been on production a few times.

State Proration Umpire Ray M. Collins has issued a warning to operators that they must comply with the regulation requiring them to notify his office not later than noon the day before an anticipated completion. It is the plan of the umpire to have a representative present for each completion. Recent orders of the Corporation Commission have included regulations preventing the drilling of any Wilcox sand test to or below what is now believed to be the general oil water level. Two wells in that horizon have encountered water at about minus 5365 feet and this figure is now thought to represent the danger line.

The use of oil meters to check Okla-

Status of Oklahoma City Pool as of May 1, 1932

Company	No. of wells	Corp. comm. potentials	Net allowable for April	April production	Stock 7 a.m. April 1	April runs	Stock 7 a.m. May 1
Acme	1	17,255.70	11,115	11,115	817	11,205	1,169
Addition	1	19,216.72	12,487	13,332	943	12,224	2,051
American	1	13,047.00	8,576	8,576	407	8,523	460
Anderson-Kerr	1	10,907.48	7,286	7,272	327	7,268	331
Anderson-Pritchard	29	118,503.34	156,703	238,680	21,486	125,898	16,668
Argood	1	96.40	14,623	3,683	1,799	4,101	1,379
Blackstock	1	1,774.48	1,798	1,725	56	1,584	197
Blackwell	5	28,357.50	22,732	22,728	5,612	7,778	20,569
British-American	9	86,631.60	63,718	63,694	5,708	64,877	4,524
California	1	313.10	10,501	3,617	3,318	4,677	2,258
Capitol P. & R.	3	19,494.44	14,166	15,329	707	13,227	2,808
Capitol Prod. Trust	1	13,052.48	8,356	9,809	1,659	10,477	991
Century	5	42,643.46	32,146	32,221	12,234	41,685	2,771
Champlin	11	35,509.46	—82,988	39,510	5,114	40,916	3,743
Chatham	2	28,264.80	20,152	20,146	1,489	20,158	1,478
Coline	35	19,147.77	44,167	43,709	13,507	41,607	15,609
Continental	12	84,302.40	26,033	37,835	14,289	44,440	7,690
Courter	1	5,607.00	3,064	4,177	1,695	4,186	1,686
Cromwell-Franklin	32	90,113.82	115,144	107,717	71,727	115,344	64,100
Dabney-Johnson	1	4,260.00	3,556	3,568	434	3,568	434
Denver	6	54,279.92	37,651	39,955	5,794	31,544	5,205
Denver-Indian	1	10,279.50	7,341	7,052	2,142	8,106	1,088
Denver-Reynolds-Plns.	1	12,216.82	8,076	13,532	3,118	15,494	1,156
Dengail	4	28,113.60	25,807	23,013	8,466	25,844	5,635
Donleon	2	27,768.20	17,296	12,857	4,739	15,385	2,210
Eason	3	17,793.68	12,159	15,260	1,679	13,164	3,774
Empire	3	16,409.95	14,412	14,381	2,180	14,007	2,558
Franco-Dominion	1	12,506.80	14,761	2,866	3,432	4,306	1,992
Franklin, Wirt	39	72,895.46	131,224	126,885	61,604	129,436	59,048
Government	2	9,980.20	4,581	8,763	4,633	11,842	1,555
Great Southern	1	5,941.20	5,918	2,479	1,840	3,781	538
Hall & Briscoe	2	2,079.00	4,062	6,190	8,154	13,302	1,042
Harrell-Davis	1	2,768.00	—334	1,467	205	1,316	357
Holman, Ed. S., Inc.	1	3,352.20	2,068	5,675	3,944	2,900	6,719
I. T. I. O.	293	540,857.65	817,835	698,219	125,942	695,000	103,964
Kedberg	1	474.00	539	4,229	535	2,703	2,061
Kessler	1	3,727.50	—179,356	....	843	....	843
Lassen & Corn	1	7,853.40	....	6,285	1,904	7,860	330
Mabee	4	48,274.61	38,006	38,560	2,099	38,591	2,068
Marco	1	....	....	....	247	....	247
Marshall	3	34,349.50	15,227	....	....	....	....
McArthur	3	27,402.88	17,846	22,828	1,859	17,400	7,287
Mid-Kansas	7	5,811.10	8,268	8,269	2,682	5,486	5,467
Minnehoma	1	18,886.22	11,660	12,723	6,370	18,480	613
Morgan	3	32,559.48	23,477	12,134	2,685	11,317	3,502
Ocate	3	39,530.92	5,613	6,985	3,307	6,965	3,327
Oils, Inc.	4	32,436.54	21,736	21,757	1,162	22,290	631
Okla. City Pet. Co.	1	10,705.74	7,174	7,230	392	7,099	523
Paine & Johnson	1	10,853.82	15,470	8,581	3,018	8,281	3,318
Peacock, John H.	3	2,981.04	30,993	19,354	1,045	19,252	1,147
Phillips	68	717,605.84	476,798	502,205	59,786	506,174	60,966
Plains	2	10,028.60	12,244	11,878	694	11,691	881
Rajah	1	14,569.32	9,633	10,164	84	9,448	800
Refiners Production	2	4,032.00	—2,829	2,016	194	1,364	843
Reynolds & Unruh	1	8,254.96	5,972	6,445	1,918	8,179	184
Russell	2	21,122.00	17,291	17,281	5,426	16,425	6,280
Scott & Co.	2	433.12	14,167	5,745	3,270	8,407	608
Shaffer, J. C.	6	30,589.04	22,951	23,141	5,272	23,564	4,842
Shell	8	1,487.58	15,681	8,767	815	8,372	1,215
Sinclair-Prairie	68	104,462.62	126,354	117,553	14,253	115,668	16,171
Skelly	23	105,448.34	84,089	81,350	10,808	71,538	20,618
Slick-Urschel	107	557,040.26	500,604	441,757	61,770	433,317	70,716
Springrose	1	113,019.86	7,174	8,998	717	9,414	301
Stauffer	1	9,919.54	5,653	5,868	932	6,648	152
Sunray	4	55,907.24	54,299	40,695	1,638	8,234	34,103
Watchorn	1	15,341.12	10,795	5,904	3,623	3,134	6,393
Westgate	7	90,310.06	54,775	57,370	3,187	57,103	3,455
Wilcox	10	79,434.50	....	6,905	....	....	....
Wrightsmith	2	2,880.00	7,628	7,628	3,883	7,866	3,628
Total	866	3,573,473.86	3,036,124	3,079,085	607,618	3,041,440	611,277

homa City oil runs has been advocated and discussed before several hearings during the past few months but engineers have contended that none of the meters on the market could be depended upon under all conditions. In order to check the meters now available, employees of the Umpire and of Phillips Petroleum Company are conducting tests, comparing metered production with that gauged in the usual manner. At one time Governor Murray intimated that he would force operators to place meters on all gathering and pipe lines if a method more satisfactory to enforcement of proration were not devised. Recent agitation for oil meters in the East Texas areas has caused the subject to be resumed in regard to Oklahoma City production where several operators have been caught in violation of production allowed under the commission orders.

Pottawatomie County Well Making Less Water

Seminole, Oklahoma.—Water which appeared several days ago appears to be diminishing gradually in Carter Oil Company et al's Monnette 1, SW SW SW Section 35-7n-4e, discovery well in the Sacred Heart area of southeastern Pottawatomie County. At 4260 feet in Simpson formation the well made 807 barrels in 20 hours on the swab and 500 barrels in 16 hours gas lift. Production was cutting one half of one per cent B. S. and water, during the potential gauging. Pure Oil Company et al's Tucker 1, SE SE SE Section 34-7n-4e, west offset to the discovery well, had top of the Mayes lime at 3640 feet, Woodford shale at 3745 feet, and Hunton at 3950 feet. When last reported it was drilling ahead below 3970 feet. Amerada Petroleum Company had Mayes lime at 3645 feet, Woodford shale at 3745 feet, and was drilling below 3900 feet in Mitchell 1, NE NE NE Section 3-6n-4e, southwest offset to the discovery well. Magnolia Petroleum Company was drilling below 2400 feet after getting Belle City lime at 1895 feet in Martin 1, SE NE SW Section 34-7n-4e, slightly over a half-mile west and quarter-mile north of the discovery well. Efforts have been made by owners of acreage in the area to restrict development and the latter well was forced by lease obligations.

Fish Pool

Empire Oil & Refining Company has apparently discovered an unusual condition in Fish 3-D, SE SE SE Section 19-7n-8e, which is now drilling below 3215 feet with more than 2500 feet of water in the hole, although it is offset on two sides by good production. Fish 2-D, the west offset, was completed for 1175 barrels from Wapanucka limestone at 3008 to 3034 feet and Burke-Greis et al's Catlett 1, SW SW SW Section 20-7n-8e, the east offset was a 1735 barrel well in Wapanucka limestone at 3070 to 3106 feet.

Production in the Fish pool is obtained from a sandy phase of the Wapanucka limestone. Failure of Empire Oil & Refining Company's Fish 3-D to find production is difficult to explain and the only plausible answer is that the expected producing horizon was a true limestone instead of the sandy phase which has been encountered elsewhere in the pool. The test was structurally higher than its east offset on top of the Wapanucka.

Carter Has Conservative Policy on Wildcats

Chickasha, Okla. — Carter Oil Company has resumed drilling after setting surface pipe in Carson 1, SE SE SE Section 12-3n-8w, wildcat test located about three miles south of the Chickasha gas area in southwestern Grady County. Carter Oil Company now has only three operations, two of which are drilling and one is a rig which will not be active until one of the drilling wells is completed. The company feels that wildcat drilling is unjustified at this time and will continue its conservative policy until such time as it feels the industry needs new reserves. Its present activities are largely forced through lease obligations.

Oklahoma Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
Schermerhorn-Ardmore, Richards 3, ne nw sw se 24-4s-3w	5	1360
CREEK COUNTY—		
Magnolia, Musselman 18, nw sw nw ne 8-18-7e	4	2346
Billingslea, Lee 17, se sw se 12-18-11e	*	2352
Krasne Bros., Harry 3, se sw se 4-17-11e	*	1849
MARSHALL COUNTY—		
Starritt et al, Henry 1, ne sw, 22-7s-6e	*	851
Nelf et al, Coatsworth 4, c se se se 30-5s-6e	*	675
MUSKOGEE COUNTY—		
Price et al, Green 1-A, csl sw 20-14-17e	*	1756
Newhoma Pet., Lyons 1-A, ne sw 26-14-17e	*	2190
OKLAHOMA COUNTY—		
Slick & Frisco, Frisco 4, nw nw se 3-11-3w (3-2/3H)	1953	6375
Slick et al, Classen-Edwards 8, sw nw sw 3-11-3w (4 Hr)	1029	6483
Eason, Smith 1, ne ne nw 15-11-3w (4 Hr)	3282	6526
OKMULGEE COUNTY—		
Kingsmith, Grayson 4, cnl se nw 35-16-11e	35	1825
La Beene et al, Hill 7, c ne sw 23-15-11e	*	1875
PONTOTOC COUNTY—		
I.T.I.O., Bennett 1, ne sw 33-5-5e	30	2920
Myers et al, Merriam 2, se c 21-5-6e	100	1748
Vanderslice, Kahn 1, ne nw 20-2-4e	*	440
SEMINOLE COUNTY—		
Empire, Fish B-3, ne sw se 19-7-8e (12 Hr)	704	3102
STEPHENS COUNTY—		
Pace et al, Gilworth 4, nw se nw 2-2s-8w	20	1575
WAGONER COUNTY—		
W. LaPierre, Bird 1, c sw ne 27-18-15e	*	1160
Hempstead et al, Lowery 1, se sw 30-16-16e	*	1920

New Operations

CARTER COUNTY—Schermerhorn-Ardmore, Wilson 8, c nw ne se 23-4s-3w.

CREEK COUNTY—Hughes et al, Flinchum 4, se nw sw 11-19-9e; Gled Oil Co., Boyd 1, ne nw 29-19-9e; Gibson & Metz, Sellers 1-A, sw ne sw 30-17-7e (owdd); Smith & Williams, 1-A (20 acres) sw ne 27-16-9e; Deep Rock, Warnarkee 1-A, ne nw sw 22-15-8e.

MARSHALL COUNTY—Collins et al, McDuffel 1, ne se sw 3-7s-6e.

MUSKOGEE COUNTY—Braman Oil, Brown 2, c n½ se ne 18-13-16e (owdd).

OKFUSKEE COUNTY—Misner-Fleming, Robinson 2, nwc 12-10-11e.

OKLAHOMA COUNTY—Phillips et al, Calkins 1, sw nw ne 3-11-3w; Harper-Turner, Harrison 1 ne nw ne 22-11-3w.

OKMULGEE COUNTY—Amerada et al, Unallotted 1-A sw se 12-14-12e; W. B. Coyle, Sutton 3, c sw sw 33-14-14e (owdd).

PAWNEE COUNTY—Doc Young et al, Purcell 1, c ne nw 34-21-8e.

PAYNE COUNTY—Amerada, Penny 1-A, sw nw se 25-19-4e.

PONTOTOC COUNTY—Patsy Oil, Burke 1, se ne se 25-5-4e; Fleetborn, Brown 2, ne se ne, 28-5-6e; Delaney & H. M. Drlg. Co., King 1-A, nw se 32-5-8e; Vanderslice, Meredith 1, ne sw 17-2-4e.

POTTAWATOMIE COUNTY—Taylor et al, Bean 1, sw nw 36-7-4e; Papoose, Horn 1, nwc 24-6-3e. Magnolia, School land 1, ne nw 36-6-4e.

SEMINOLE COUNTY—Empire, Fish D-4, nw se se 19-7-8e.

STEPHENS COUNTY — Trahan-Wilson, Pruitt 1-A, ne sw se 3-1-9w; Pace et al, Allen 4, se ne 3-2s-8w; Pace et al, Watkins 10, ne se se 21-2s-7w.

WAGONER COUNTY—Sheridan et al, Snake 2, csl se nw 26-18-15e.

Wildcat Drilling Report

(Wells shut down not included)

LINCOLN COUNTY—T 14n, R 3e, Sec. 2, Hilton Phillips, Phillips 1, swc, nw, dr 5066 ft. T 12n, R 5e, Sec. 3, Sovereign Oil Corp., Selacek 1, ne c se, Viola 4463 ft, td 4482 ft.

PITTSBURG COUNTY—T 4n, R 16e, Sec. 3, Ruby Ann Oil Co., George 1, cel nw se, sand 1116-37 ft, td show gas, will shoot.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 19, Bunte et al, Bruner 1, se c nw, rig.

POTTAWATOMIE COUNTY—T 9n, R 4e, Sec. 1, Clara O&G, Timms 1, sw nw ne, Viola 4435 ft, 8-inch 4501 ft, td 4518 ft, drlg plugs.

CUSTER COUNTY—T 14n, R 14w, Sec. 12, Miley Pet. Co., Caldwell 1, ne c, cellar.

WASHITA COUNTY—T 9n, R 17 west, Sec. 23, Miley Pet. Co., Chapman 1, ne c sw, rig. T 8n, R 18w, Sec. 21, Burns & Prince, Dock 1, sw c, top sandy shale 1525 ft.

GRADY COUNTY—T 4n, R 7w, Sec. 35, Schoonmaker, Slaton 1, nw c, sd 40 ft.

GARVIN COUNTY—T 1n, R 2w, Sec. 19, Long & Har, Ward 1, nw sw se, lcn.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al, Guinn 1, nw c, fsh 1867 ft.

KANSAS FIELDS

Ellsworth Area Allowed Greater Recovery

Eight Wildcats Started in Wide Parts of State.

FLOYD SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Stratman Pool Production Extended One Location East

Wichita, Kansas.—Production extended one location east in the Stratman pool when Smith, Ash, and The Texas Company drilled to 3265 feet in Stratman 1, NW NE NE Section 12-17s-10w, and had more than 2000 feet of oil standing in the hole. Casing will be set near the top of the Arbuckle limestone which was logged at 3262 feet. This test is an east offset to Derby Oil Company's Stratman 1, which was completed in March of this year, making 975 barrels on the initial test from Arbuckle limestone at 3270 to 3281 feet.

Entrance of El Dorado Oil & Refining Company as a purchaser of crude in the area caused the Public Service Commission to raise allowable production from 5 to 10 per cent on wells in the Ellsworth area. This statment came from Lloyd R. Pickrell, state proration umpire and agent for the commission. El Dorado Oil & Refining Company does not have connections to any of the wells but has made arrangement to purchase through agreement with Stanolind Crude Oil Purchasing Company.

Valley Center

Continental Oil Company is plugging back and may abandon Lambe 1, SE SE NW Section 12-26s-1w, testing for an extension to the Wright pool in Sedgwick County. Sulphur water was encountered in Arbuckle lime at 3422 feet and the well plugged back a few feet where it is capable of making about 100 barrels of oil with considerable amounts of water daily.

Eight Wildcats Started Over Wide Area in Kansas

Wichita, Kansas.—One of the most interesting wildcat tests in Kansas is Hall and others' Donaldson 1, C NE NE Section 25-5s-18w, which was drilling below 2410 feet when last reported. This test besides being the most northerly drilling well in the Mid-Continent area is located on a structure core-drilled by Midwest Exploration Company and blocked by them in 1928. The structure trends northwest southeast covering several townships and having approximately a 125-foot sharp west dip with a more gently dipping northeast flank. Phillips Petroleum Company's McKinley 1, SE NE SW SE Section 13-5s-18w, a dry hole completed at 3589 feet in August, 1926, is located approximately two miles due north and, according to the structural evidence of the core drill, was located too far down the dip.

Reports of the past week brought announcements of eight new wildcat tests in scattered Kansas areas, more activity than the state has seen in many months. Miller and others, Jones 1, SW SW SW Section 26-27s-1e, and Scroggins and others' Bartlett 1, NW SE NW NW Section 35-27s-1e, are located on the southeast edge of the city limits of Wichita not far from a residential section. Both are on platted tracts and would result in considerable townlot drilling should either be completed as commercial production.

Ramsey and others' Michael 1, SW NW NW Section 18-27s-3e, is approximately five miles east of the Eastborough pool and eight miles west of the old Augusta pool in Butler County. York State's Lefebare 1-A, NE NW NW Section 14-23s-11e is approximately one mile from production in north central Greenwood County.

Deitrick and others' Dalke 1, NW NW SE Section 11-19s-1e, is a rig on ground in the western portion of Marion County approximately eight miles northeast of the nearest production which is in the Canton Townsite of Eastern McPherson County. The test is located just over the line in western Marion County.

The remaining three new tests are in the western portion of the state. Simmons and Canary's Krehbiel 1, Section 33-18s-1w, is located approximately three miles north of the Canton Townsite production and was rigging up rotary at the end of the week. Sidwell and others' Nichols 1, NE NW NW Section 28-17s-1w, approximately one-half mile from the town of Roxbury in northeastern McPherson County, was a location. Nearest production is in the old McPherson gas pool, about ten miles to the southwest.

Raymond Gear and others' announced their second wildcat operation and have a rig up for Krobeth 1, SE SE NW 12-15s-10w, one mile west of the town of Blackwolf in the northern portion of the Barton-Ellsworth Arch area, Ellsworth County.

Kansas Field Operations

Completions

Company, Well and Location	Initial Production Bbls.	Depth
McPHERSON COUNTY—		
Dickey, Decker B-2, sw nw se 35-19-2w	(2 Hr) 480	2970

New Operations

CHASE COUNTY—Smith et al, Leedy 5, se sw nw 36-22-9e.

COWLEY COUNTY—Wakefield et al, Abernathy 1, se ne se 22-32-4e.

GREENWOOD COUNTY—Mathews & Rex, Reeser 1, ne c 7-24-12e; Harwood et al, Beal 4, nw ne se 28-23-11e; Gore & Phillips, Brothers 3, nw ne ne 35-23-11e; Gore & Phillips, Brothers 4, ne sw ne 35-23-11e.

HARVEY COUNTY—Olson et al, Krehbiel 1, c sw sw 19-23-3w.

McPHERSON COUNTY—Magnolia, Stucky 1, se ne ne 28-20-3w; Carter, Lagree 1, se c 17-19-1w; Darby, Coon 2, sw se sw 20-19-1w; Darby-Shell, Kaegi "A" 2, sw se ne 20-19-1w (owdd).

STAFFORD COUNTY—Midwest, Brock 6, c nw nw 6-23-11w.

Wildcat Drilling Report

(Wells shut down not included)

SUMNER COUNTY — Trees Oil Co. and Shell, Springate 1, ne se sw, 6-34-2e, 3187-3205 ft hfw, 5-inch 3205 ft. Trees Oil Co. et al, Tompkins 1, sw c, 26-33-1e, lcn.

SEDGWICK COUNTY — Tulsa Oil Co., Linot 1, c se sw, 8-28-2e, dr 1757 ft. Miller et al, Jones 1, sw c, 26-27-1e, dr 450 ft. Scroggins et al, Bartlett 1, nw se nw nw, 35-27-1e, ru.

BUTLER COUNTY—Ramsey et al, Michael 1, sw nw nw 18-27-3e, lcn.

FINNEY COUNTY — National Ref. Co., Wells 1, sw c, 13-23-30w, 6-inch 4770 ft, dr 4800 ft.

GREENWOOD COUNTY—York State, Lefebare 1-A, ne nw nw 14-23-11e, lcn.

RENO COUNTY—Jarvis & Wright, Rainbow 1, nw nw se, 33-22-7w, dr 3700 ft.

HARVEY COUNTY—D. R. Louck, Regier 1, sw se nw, 9-22-3w, 12-inch 1852 ft, dr 1885 ft.

BARTON COUNTY—Skelton-Ott 1, c se se, 16-19-14w, T. sil. 3530 ft, dr 3590 ft.

McPHERSON COUNTY — Deitrick et al, Sinclair 1, se sw, 25-19-1w, 10-inch 2420 ft, sd 2475 ft.

MARION COUNTY—Deitrick et al, Dalke 1, nw se, 11-19-1e, rog.

RICE COUNTY—Slick et al, Orth 1, se se ne, 27-18-10w, rig.

McPHERSON COUNTY—Simmons-Canary, Krehbiel 1, 33-18-1w, ru. Sidwell et al, Nichols 1, ne nw nw, 28-17-1w, lcn.

ELLSWORTH COUNTY—Johnson & Vickers, Claussen 1, c se nw, 31-15-10w, spd. Raymond Gear et al, Krobeth 1, se nw 12-15-10w, rig.

GRAHAM COUNTY — Schleimeyer et al, Smith 1, se c, 24-8-25w, rog.

SHERIDAN COUNTY — Flo et al, Schoemaker 1, se sw sw 27-7-26w, td 4505 ft, co.

PHILLIPS COUNTY—Hall et al, Donaldson 1, c ne ne, 25-5-18w, dr 2410 ft.

EAST CENTRAL TEXAS

Discouraging Conditions in Southeast Extension Test. Rule Adopted Requiring Meters on Pipe Lines.

H. H. KING, *Staff Representative, Fort Worth, Texas*

Attorney General Joins In Proration Enforcement

TYLER, Texas.—Proration violators in the East Texas field are being reminded that a general state election is soon to occur, and that in addition to getting by the Governor's militiamen and the field forces of the Texas Railroad Commission with excess production that the Attorney General's department is also to be reckoned with. Attorney General James V. Allred, working independently of the above two enforcement bodies on duty in the field, assembled evidence and field injunction suits and claims for penalties against seven operators, including some that have been chronic violators since proration was first introduced into the field.

Voters of East Texas have become oil minded through newspaper publicity that has been given alleged oil thefts from royalty owners, open violation of proration laws, and failure of some departments of the state to detect and prosecute those disregarding the conservation laws. It is now quite evident that proration violators in this field will be dealt with severely, and that special effort to obtain one or more convictions before election will be attempted, as the voting strength of East Texas is such that no candidate for a state office can win without liberal support from the district.

Attorney General Allred launched a private drive on alleged proration violators by filing petitions for restraining orders against operators in federal district court here, and also against others in the state court at Austin. Injunctions were issued in the Ninety-Eighth District Court at Austin on May 9, restraining A. H. Tarver et al and the Wainwright-West Oils, Ltd., of Toronto, Canada, from producing in excess of the commission's well allowable, and also asked for $1000 per day penalties for each day that the above operators violated orders in the past few months. It was alleged that Tarver and associates produced 130,000 barrels above the allowable during March and April, 1932, and it was charged that the Canadian firm's violations took place after April 15.

Prior to the issuance of these injunctions, Attorney General Allred filed applications in federal district court at Tyler seeking restraining orders against five operators and companies that have sought to enjoin the Texas Railroad Commission from enforcing its proration orders. This group had previously enjoined the military forces and Governor R. S. Sterling from enforcing proration orders, and have a federal court test case of the Commission's proration authority scheduled for a hearing at Houston May 30. Attorney General Allred set forth the amount of over-production charged against the quintet, and added that each had paid royalty owners and state taxes on the excess production. The defendants and the amount of over-production alleged follow: People Petroleum Producers, Inc., (K. E. Merren), 90,000 barrels; Gordon Macmillan et al, 20,000 barrels; Lide-Tayloe Oil Company, 17,000 barrels; Lide-Rowe Oil Company, 15,000 barrels; and Bill & Dave Oil Corporation, 11,000 barrels.

These new charges of proration violation do not include any of the group reported last week as having been indicted for felony by district attorneys serving Rusk and Gregg Counties as result of investigations conducted by the military and field forces of the commission. Oil theft charges were filed against 18 individuals, as result of alleged improper accounting of royalty oil. Preliminary trials for these men will probably be held early in June.

Recording Meters Ordered For East Texas Pipe Lines

Austin, Texas, May 13.—Recommendations for the installation and operation of meters for the East Texas field were made at a closed meeting of the committee here today. The following points were given approval:

Meters will be installed on all discharge lines leaving the field on trunk systems, at refineries, loading racks or other sources.

Installations will be made within 30 days. Tolerance of two per cent will be permitted. Pipe line companies will install, maintain and operate meters within this tolerance.

Uniform daily reports will be required of all purchasers. Both receipts and deliveries must be itemized and sent to the Texas Railroad Commission within 24 hours after each transaction. A sub committee was named to draft the report form.

Indications are the commission will follow these recommendations.

DALLAS, TEXAS.

ENFORCEMENT of production restrictions in the East Texas field by militiamen and field staff of the Texas Railroad Commission is to be augmented by the installation of crude oil meters of the recording type on every trunk line extending out of the field and on the discharge line of gathering systems serving local refineries, tank car racks and tank farms. The Railroad Commission ordered all lines be equipped with meters at the conclusion of a hearing held here May 10, to determine if meters can be of aid in detecting violators of proration, and also oil thefts. A group of independents advanced the meter idea as a means of checking all oil shipments with reported production and purchases, and no opposition was registered at the hearing by companies that will be required to spend an aggregate of about $250,000 for meters.

The drafting of an order requiring the use of meters on the crude lines was placed in the hands of a representative group by the commission in order that all factions may be satisfied. This group includes the East Texas field's well connection committee, headed by J. G. Pew, Sun Oil Company; Chas. F. Roeser, Roeser-Pendleton, Inc., president of the Texas Oil & Gas Conservation Association; J. R. Parten, Woodley Petroleum Company, president Independent Petroleum Association of Texas; and Clifford Moores, Longview operator who first advanced the meter idea. Carl Estes, Tyler, editor and spokesman for East Texas royalty owners, was made an ex-officio member of the drafting crew, which met in Austin, May 13, to prepare the order.

Testimony given at the hearing re-

vealed that the metering of crude handled by the various lines must be supplemented by regular check ups by the enforcement bodies, otherwise it will be possible for wilful violators to install by-passes at the metering points on the lines. It was also pointed out that unless close supervision is maintained that carriers falling within the latter classification might also deliberately cause meters to register falsely by tampering with the mechanism. Representatives of the pipe line companies readily acceded to the metering proposal in hopes that it would serve to curb proration violations and a repetition of recent alleged thefts of oil from royalty owners in the field.

Representatives of several of the leading manufacturers of meters gave testimony as to the efficiency and experience supporting same in recording the volume of oil and gas moving through pipe lines under varied pressures and temperatures. It was stated that meters are now on the market that will record crude oil containing a reasonable percentage of paraffin, sand, b.s. and water, and within a degree of accuracy of one-half of one per cent. Price estimates on meters were quoted as ranging from about $800 for four-inch size installed to approximately $7000 for the 10-inch which is the largest in stock. The latter would be capable of handling 3600 barrels of fluid per hour, or considerably more than the actual working capacity of either of the 12-inch extending out of the East Texas field.

Estes made his presence at the meeting known at the start by informing Chairman C. V. Terrell that immediate steps must be taken to stop oil thefts in the field by metering all lines, and if this plan fails he announced that he then favored the moving in of a standing army.

Jacob F. Wolters, counsel for The Texas Company and former commander in charge of military proration enforcement in the field, suggested that the commission should increase its field forces, and upon the installation of meters a close check be kept on the instruments and also the workmen in charge of them, or the desired results will not be attained.

In order to detect old violators and subject them to prosecution Chas. F. Roeser asked the commission to call on all crude purchasers and pipe line companies to make a sworn itemized statement covering every barrel of crude handled since September 5, 1931. Then have each producer to make a sworn report for the same period to be used for checking. Upon the establishment of proof of violations suits should be filed by the state, according to Roeser.

East Texas Field Will Not Extend Far Into Cherokee

TYLER, Texas.—Erratic sand conditions encountered by tests drilled on the southwest edge of the East Texas field indicate that a very small portion of the northeast corner of Cherokee County will participate in the oil and gas production. Mid-Kansas Oil & Gas Company's M. M. Cross 9, located in northwest corner of a 117-acre tract, Foulkes Survey, and an east offset to Merry Brothers & Perini's flowing well on the Kelly-Simms tract, failed to flow when given lengthy swabbing test from broken sand logged from base of Austin chalk at 3661 to 3678 feet. This places the hole at a sub-sea depth of 3320 feet, and because of bottom hole water hazard a small pumper will be made of the well as a compromise. The producing offset drilled to 3679 feet, or 3308 feet below sea level, and made 32 barrels oil on 10-minute gauge through one-inch choke one month ago. Mid-Kansas Oil & Gas Company's H. D. Kelly 1, a north offset to Merry et al's producer, cored richly oil saturated sand at 3671-74 feet, and cemented pipe to test, with a good well assured.

Stanolind Oil & Gas Company and Pure Oil Company's R. Alex Moores 3, located in southwest corner of a 210-acre tract, and a short distance east of the above pumper on the Cross land, cored sand at 3638-40 feet, and completed making 20 barrels oil on 15-minute gauge through open 2½-inch tubing. This is a smaller well than expected, and only two feet of pay was taken because of the hole being bottomed at 3305 feet sub-sea. The same partners' Moores 4, located in the northwest corner of the tract, likewise took only two feet of sand in drilling to 3645 feet, or 3314 feet below sea level, and is ready to complete.

The gas area on the south end of the East Texas field was extended May 7 about 6000 feet to the south when Wemack Oil Company's (J. Earle Brown) J. G. Arnold-Pure 1, Wm. Christian Survey, gauged 35,000,000 cubic feet of dry gas at 3677-89 feet. The well was closed in to await a market outlet. A windstorm struck the area on the following day, toppling the derrick, and damaging the connections and casing. The well flowed wild for a brief period, and the owners escaped an expensive well killing job by a bridge forming in the hole to completely cut off the production. A stub derrick is under construction to re-condition the hole.

North End

On the extreme north end of the East Texas field and in Upshur County, C. S. Bazzell-E. E. Eslick et al's J. H. Thomas 1 failed to flow when carried to 3619 feet, or a sub-sea depth of 3349 feet. The sand was topped at 3575 feet, or 3305 feet below sea level, and is credited with carrying water in the lower section. It is located about one mile northeast of the outpost producer of Eslick et al on the Whitehurst tract, where a flowing well was developed at a sub-sea depth of 3294 feet March 20. The next interesting outpost test on the north end of the field is to be that of the Faith Oil Corporation et al's E. H. Brawley 1, located in the southeast corner of a 180-acre tract, J. Crouch Survey, and more than a mile north of nearest production on the Nicholson land.

Simms Oil Company and Frank Buttram completed the first two wells on their Nicholson 800-acre solid lease, Upshur County, last week, but are taking in only a small portion of the sand body as a safety measure on future water encroachment. Nicholson 1 gauged 61 barrels of oil on 40-minute gauge via two-inch open tubing from sand at 3650-64 feet, and Nicholson 2, located in the northeast corner of the lease, flowed 50 barrels per hour through open tubing from sand at 3618-21 feet, with the hole bottomed at 3290 feet below sea level. The Woodbine sand horizon underlying the northwest

portion of this unusually large lease is expected to carry water, and it is proposed to prepare for a rise of the water table by drilling only the top section of the oil body.

On the northeast flank of the field and within the proven area, Champlin & Bass et al's G. C. Mattox 3, 24-acre lease, D. Sanches Survey, Gregg County, failed to flow when swabbed and washed with oil at a total depth of 3645 feet, and will deepen. This test has drilled by the total depth of the other two wells on the lease, and may be confronted with tight sand conditions. Sinclair Prairie Oil Company's J. E. Lawther 7, located in the M. Garrett Survey, and in the northeast edge of the Kilgore area, flowed 60 barrels in two hours through tubing after undergoing two days of swabing from regular sand at 3554-3574 feet. Tight sand conditions and low reservoir pressure account for the small production.

Salt water invasion of H. E. Wrenn et al's Asa King-Tidal 1, located on 79-acre lease, W. P. Chism Survey, and on west edge of the Kilgore area, delayed the completion of the well in sand at 3738-3754 feet. This well has a sub-sea depth of 3330 feet, and began showing water when given initial swabing test. The first effort to plug back with six sacks of cement failed to get a water shutoff, and the hole has been re-cemented.

Along with the irregular wells recorded above, the field contributed an exceedingly heavy quota of producers during the past week. The latter group were mostly of a routine nature, and within the established limits of the field. Big wells on proven leases are without importance, as the small wells have just as much earning power under flat well allowable as a record sized producer. There is no inducement for an operator to make maximum sand penetration so as to register big initial flows while the production allowance continues to slump to lower levels. Some operators continue to take in all the oil bearing sand possible even though its generally known that the natural advance of the water table on the west and northwest flanks of the field will necessitate plugging back of holes at a later stage of operations in the field.

Magnolia Ran Less Oil In April Than March

Dallas, Texas.—Magnolia Petroleum Company pulled on its crude stocks in Oklahoma during April at daily average rate of 9370 barrels, as compared to an average withdrawal of only 671 barrels daily the previous month. Stocks held in Oklahoma at close of April amounted to 8,182,199 barrels. Crude production and purchases by the company in Texas during April remained at a high level, and some oil was diverted to storage because of takings being in excess of demand. Production and purchases of oil in Texas fields during April averaged 71,088 barrels daily, and the daily average for all states aggregated 112,060 barrels in April, as compared to an average of 114,119 barrels daily in March.

Central East Texas Field Operations

Completions

Company, Well and Location	Initial Production Bbls.	Depth
JOINER AREA—		
T. C. Adams et al, A. J. Deason (3-ac) 1	3000	3700
C. L. Archer et al, J. H. Stewart (21-ac) 2	8500	3737
Bay Oil Corp. (A. G. Oliphant), W. O. Alford (40-ac) 3	9000	3720
Mills Bennett Prod. Co., E. L. Pinkston (108-ac) 4	4500	3659
East Texas Ref. Co., T. Barksdale (10-ac) 2	6000	3710
R. W. Fair et al, Deason (9-ac) 1	2000	3710
Golding-Murchison Oil Co., R. W. Fair-Shell (100-ac) 7	7200	3632
Gulf Production Co., S. B. Stone (29-ac) 4	7800	3752
Jack Wiley (128-ac) 5	8500	3725
Hawkins & Sutton, M. E. Church Lot (8-ac) 1	3000	3812
Henson Oil Co.,-Reynolds, R. A. Motley (43-ac) 2	12,000	3827
Howell et al, Irion-Motley 1	14,000	3802
Humble Oil & Ref. Co., S. A. Glover (58-ac) 2	8500	3760
Lesh Hill (60-ac) 1	10,000	3780
E. S. Thrash (42-ac) 3	9000	3814
Heywood White (49-ac) 2-A	8500	3755
H. L. Hunt et al, Joe Lee (19-ac) 1-B	8000	3721
W. P. Moore (82-ac) 6	7200	3640
R. J. Vinson (21.7-ac) 1-B	500	3710
T. A. Johnston & Owens, J. Jackson (50-ac) 1	2500	3769
C. L. McMahon et al, A. P. Finney (22-ac) 3	2000	3688
Martin & Cockburn, J. Cansler (41-ac) 3	6000	3770
Mid-Kansas Oil & Gas Co., H. L. Griffin (64-ac) 2	1500	3726
M. L. Thompson (100-ac) 7	10,000	3633
Nash & Bloxom, F. Cole (31-ac) 2	5000	3772
I. P. O'Neil et al, Mayfield-Shell (200-ac) 4	8200	3775
Pugh-Hickman Drl. Co., S. S. Cook (28-ac) 3	8000	3707
M. W. Ransom et al, E. B. Alford 1, Lot No. 35	1500	3656
Geo. B. Ray (was RMV Oil Co.), J. B. Wilson (51-ac) 3	9500	3664
W. M. Shaw, Trustee, E. B. Alford 1, blk 26	2000	3645
Sinclair Prairie Oil Co., W. D. Kinney 26	8500	3668
Mayfield (374-ac) 9-A	9600	3780
Mayfield (149-ac) 9-B	10,00	3629
A. Wiley (312-ac) 4	8000	3795
Jack Wiley (21-ac) 2	7500	3785
Smith & McDonald (was Carruthers Oil Co.), Deason (5-ac) 1	1500	3700
Standard Pipe & Supply (Spansco Oil) Co., E. B. Alford (5-ac) 1, Lot No. 43	1800	3610
J. Bell (36-ac) 4	4500	3825
Stanolind Oil & Gas Co., T. O. Mason (100-ac) 2	3000	3619
Stanolind-Pure Oil Co., R. A. Moores (210-ac) 3	4000	3640
Sun Oil Co., J. A. Layne (103.7-ac) 5	5500	3691
The Texas Co., J. M. Price (90-ac) 3	6500	3610
Tidal Oil Co., Mrs. J. M. Finney (40-ac) 4	2000	3690
L. J. Pinkston 8	4000	3792
Wemack Oil Co. (J. Earle Brown), J. G. Arnold-Pure (128-ac) 1	¶35	3680
KILGORE AREA—		
Adams & Lyles, L. Howard (49-ac) 1	†	3645
Arkansas Drl. Co., Adkins 1	8000	3708
Atlantic Oil Prod. Co., Clayton (267-ac) 3	7200	3591
Byrd & Frost, Inc., M. B. Hughey (105.4-ac) 8	9000	3570
E. L. Chapman (Dave Donoghue, Rec.) Futch-Cooper (11-ac) 2-A	7500	3696
O. R. Cooper (Sid Latham, Rec.) J. C. Clayburn 1	9600	3720
Cranfill-Reynolds Co., J. M. Blackburn (36-ac) 3	11,000	3624
Darby Pet. Co., C. O. Christian (97-ac) 7-B	8500	3770
Ralph Dudney (was Perry & Crews), Clayburn 1	8500	3714
Empire Gas & Fuel Co., A. A. Lockhart (40-ac) 2	8000	3656
Gulf Production Co., C. Brown (60-ac) 4	8200	3531
Wm. Clayton 3	9600	3583
W. Holt (201-ac) 8	15,000	3582
H. Sexton (54-ac) 2-A	7000	3697
Everts Drilling Co., Mt. Calvert School (3-ac) 1	1500	3750
Houston Oil Co., N. B. Bean (41.6-ac) 2-B	6500	3650
Humble Oil & Ref. Co., L. D. Crim (628-ac) 56	9000	3704
J. T. Sexton 3-A	2000	3721
Thos. D. Humphrey et al, A. Spear (23-ac) 5	13,000	3583
Invincible Oil Co., Weiss (66-ac) 2	7500	3614
Jones-Doss Oil Co., E. Hagler (30-ac) 5	8500	3613
Karona Oil Co.-Houston Oil Co., J. N. Peterson (35½-ac) 2	10,000	3640
Louisiana Oil Ref. Corp., H. Mayfield (40-ac) 3	8000	3702
E. R. Liner, Inc., J. Clayburn (4-ac) 2	9000	3705
Magnolia Pet. Co., A. Hicks (99-ac) 5	10,500	3727
Massie & McMinn, Elder 1	6000	3620
C. L. McHaney et al, Mt. Calvary Church Lot (4-ac) 1	7000	3713
Mission Oil Co., Clauburn 2	12,000	3712
F. W. O'Brien et al, W. Daniels (20-ac) 2-A	11,000	3577
Olsen Bros. Inc. & Johnson, J. S. Powers (131-ac) 4	10,500	3749
Petroleum Finance Corp., W. D. Lacy (86-ac) 5	15,000	3582
L. G. Priest et al, O. Roberson (5-ac) 1	2500	3681
Republic Prod. Co., Wm. Clayton (60-ac) 1	10,000	3576
Roberts Oil Co. (was Arnett-Keeling-Adams), Comfort Church (2-ac) 1	12,000	3676
Shell Pet. Corp., M. H. Bivins (120-ac) 3-B	8500	3638
H. T. Elder (25-ac) 1	8000	3560
Sinclair Prairie Oil Co., M. T. Cole (666-ac) 18	2500	3578
M. T. Cole (666-ac) 19	9600	3558
A. A. King (337-ac) 9-B, Tract No. 1	9500	3500
A. A. King (337-ac) 12-B, Tract No. 1	9600	3490
J. E. Lawther (317-ac) 7	750	3579

Company, Well and Location	Initial Production Bbls.	Depth
Stanolind Oil & Gas Co., J. R. Beall (83-ac) 6	8600	3676
Tidal Oil Co., J. S. King (80-ac) 6	2000	3654
Trapshooter Reilly Oil & Roy. Co., E. Mitchell (17-ac) 4	8500	3603
Sam K. Vierson & Kingwood Oil Co., Geo. Muckelroy (30-ac) 3	10,000	3561
R. L. Wheelock & Collins, D. Wells (220-ac) 10	8500	3663
LONGVIEW AREA—		
Almeda Oil Co., Doby 1	11,000	3706
Amerada Pet. Corp., Mrs. C. Bumpass (98.3-ac) 6	9000	3588
Continental Bank (102.3-ac) 4	8500	3575
A. Tooke (60-ac) 4	10,500	3520
J. M. Tuttle (48-ac) 6	9000	3585
Atlantic Oil Prod. Co., J. Bander (83.9-ac) 3	72,000	3612
W. T. Burnside (231-ac) 5-B	8500	3530
Jas. Wilson (101-ac) 7	7500	3567
Atlantic-J. K. Wadley et al, Mose Turner (161-ac) 5	9000	3574
Barnsdall Oil Co.-Houston Oil Co., J. G. McGrede (109-ac) 8	11,000	3658
Bass & Dillard, C. Christian (2½-ac) 1	11,000	3670
California Pet. Corp., W. M. Clements (60-ac) 5	8000	3778
Central Drilling Co., Magrill 1	7000	3690
Chatham Oil Co., H. Fenton (40-ac) 2	4200	3772
Clark & Cowden Drl. Co., J. M. Christian (50-ac) 3	10,000	3674
H. W. Clarkson et al, J. S. O'Bryne (46-ac) 3	500	3644
Jim Cloud, Inc., B. C. Christian (24-ac) 2	7200	3672
Columbia O. & G. Co., C. J. Dollahite (41-ac) 2	14,000	3700
Conservative Oil Co., C. J. Mackey-Humble (145-ac) 1	4000	3575
Cox & Jake Hamon, L. A. Rodden (110-ac) 10	9500	3570
Danciger Oil & Ref. Co., T. B. Stinchcomb (84-ac) 2	11,000	3732
Dean & Adkisson, Victory 2	10,000	3637
Deep Rock Oil Co., H. Pritchard (105-ac) 4	11,000	3564
Dolores Oil Corp. (Ryan-Hobson), G. S. Mattox (10-ac) 2	6500	3620
East Texas Loan & Inv. Co., Geo. Anderson (12-ac) 1	9600	3533
Empire Gas & Fuel Co., A. Green (47-ac) 5	8600	3655
L. A. Jeter (121-ac) 8	8500	3604
J. L. Spurrier (52-ac) 3	9500	3635
Fain-McGaha Oil Corp., A. Tooke (100-ac) 5	8800	3626
M. E. Gaskill et al, S. J. Kay (25-ac) 3	8500	3648
Gilcrease Oil Co., A. Tooke (31-ac) 1-B	10,000	3555
Gulf Prod. Co., F. M. Fonville (100-ac) 3	8000	3537
P. L. Hoffman et al, W. N. Kellum (20-ac) 2	11,000	3554
Humble Oil & Ref. Co., T. B. Harris (175-ac) 8	6500	3586
T. M. Armstrong (60½-ac) 7	15,000	3598
Hughes 8	9200	3678
H. M. Lawrence (100-ac) 6	8000	3666
J. H. Sheppard (57-ac) 3	11,000	3631
J. M. Smith (86-ac) 2	3500	3666
Kewanee Oil & Gas Co., T. P. Coal & Oil Co. (168-ac) 9	12,000	3612
C. A. Lester & Duffield, J. T. Jones-Humble (122-ac) 2	6000	3752
Lucy Pet. Co., R. Christian (32-ac) 3	15,000	3616
Magnolia Pet. Co., Beavers-Goolsby (151-ac) 1	8000	3552
E. H. Brawley (80-ac) 4	11,000	3514
Clem Jones (65-ac) 2	9600	3688
J. H. Massie et al, J. W. Orr (36-ac) 3	13,000	3622
W. A. McCommas et al, Geo. Anderson 1	8000	3547
Navarro Oil Co., E. L. Walker (30-ac) 5	9200	3605
Roeser-Pendleton, Inc., A. Christian (31-ac) 4	8800	3614
Selby O. & G. Co.-Lewis Prod. Co., L. C. Ingram (80-ac) 8	10,000	3544
Snavely (118-ac) 2-C	13,000	3589
Shano Oil Co., B. Doby (43-ac) 3	9500	3756
Shell Pet. Corp., S. C. Fishburn (100-ac) 1	11,000	3555
W. M. Landers (64-ac) 3	9600	3697
Boston Moore (50-ac) 2	10,000	3579
G. W. Richey (61-ac) 9	15,000	3593
Simms Oil Co.-Frank Buttram, W. R. Nicholson (800-ac) 1	8500	3664
W. R. Nicholson (800-ac) 2	6000	3621
Sinclair Prairie Oil Co., M. Lawson (463¼-ac) 2	13,000	3555
C. F. Smith et al, Geo. Jones (5-ac) 1	10,000	3570
Stanolind Oil & Gas Co., Cox-Hamon (72-ac) 5	13,000	3553
Stanolind-Simms Oil Co., Flewellen (374-ac) 7-B	7000	3687
Flewellen (374-ac) 8-B	6000	3746
A. J. Tuttle (95-ac) 4	9000	3576
Stroube & Stroube, Anderson-Yeager 1	8200	3541
Sun Oil Co., J. J. Reppond (50-ac) 3	7000	3641
Superior Oil Co., H. Pritchard (99.56-ac) 4-A	12,000	3563
J. A. Woods et al, J. H. Sheppard (54-ac) 1	7500	3590
Yount-Lee Oil Co., J. G. McGrede (42½-ac) 4	9200	3541
Fannie Smith (69-ac) 3	8500	3583
J. M. Tuttle (49-ac) 3	10,500	3585
VAN FIELD—		
Pure Oil Co., W. H. Cook (86-ac) 5	8500	2927

Wildcat Drilling Report

(Wells shut down not included)

Completions

RUSK COUNTY—
G. H. Vaughan-Kelsey-Ross & Seward, Burton 1 ..... † 3177

ANDERSON COUNTY—Roeser - Pendleton, Inc.'s, M. A. Davey 1, P. G. Adams sur, dk.

BOWIE COUNTY—Joe M. Burnham-Robinson & Greer's F. O. Weiss (949-ac) 1, J. Dean sur, dr red beds 2385 ft. W. S. Langford et al's W. W. Whybark (100-ac) 1, J. H. Dyer sur, sd 1795 ft.

CHEROKEE COUNTY—Harper - Parkinson et al's J. F. Lowery (139.6-ac) 1, C. B. Jennings sur, Pecan chalk 3250 ft, sd 3365 ft. C. M. Joiner Pet. Corp. & Harris' W. H. Martin (274.9-ac) 1, Daniel Parker sur, dk. Mustang Oil Co. et al's Decker (75-ac) 1, G. T. W. Fulgham sur, elev 457 ft, dr 3710 ft. Patten-Oliver & Murray's Eddie Toole (½-ac) 1, M. D. L. S. Coy sur, fsh 2780 ft. Wm. A. Stone et al (was Helen Clair Oil Co.'s) Mrs. J. I. Perkins (200-ac) 1, Thomas Stanford sur, dk. C. L. Tubbs et al's J. H. Sharp (3-ac) 1, M. D. L. S. Coy sur, cem surface cas 122 ft.

DALLAS COUNTY—Long Creek Developing Co.'s T. C. Lupton (160-ac) 1, J. Johnson sur, sd 655 ft.

DELTA COUNTY—C. M. Joiner Pet. Corp. et al's J. A. Blackwell 1, dr 1940 ft. J. O. Wheeler-Neuville & Yarbo et al (was Commerce Oil & Dev. Co.'s) Ablovich 1, E. Chick sur, co 3315 ft.

ELLIS COUNTY—Armstrong Bros. et al's T. L. Reeves 1, Larkin Newton sur, cem cas 345 ft; Winn 1, E. Melton sur, dr 1440 ft. Carl Brooks et al's G. W. Golladay (50-ac) 1, N. C. Hilburn sur, reported show oil in sand 2318-2336 ft, hole full water 2335-45 ft, sd in shale 2435 ft. Worthen Pet. Co.'s M. Cerf 1-A, John Harris sur, dr 1010 ft.

FRANKLIN COUNTY—J. F. Mills-Mc-Gee & Harper's L. S. Harper (118-ac) 1, W. N. Dawson sur, dry sand at 2407-2447 ft, dr 3210 ft. F. E. Mayberry et al's M. L. Edwards 1, G. A. Miller sur, dk.

LAMAR COUNTY — Doyle & Jondreau's L. Martin (132-ac) 1, Joseph Deck sur, dr 2285 ft; Joe Horn (178-ac) 1, R. P. Mayo sur, dr sandy shale 2495 ft. C. W. Davey et al's E. H. McCuistan (405-ac) 1, Kaleb Wood sur, Eagleford shale 1010-1390 ft, dry Woodbine sand 1670-1696 ft, Georgetown lime 1825-2120 ft, top Trinity series 2320 ft, anhydrite 2890-2900 ft, top lime 3115 ft, dr 3430 ft.

LEON COUNTY—Selzer Drilling Co.'s J. M. Blair (1235-ac) 1, L. Hibbard sur, dk.

LIMESTONE COUNTY—C. M. Joiner-Miller Drlg. Co.'s No. 1, Geo. Gentry sur, dk. dk.

MORRIS COUNTY—Buchanan & Burkhalter (was Fulwood & Buchanan also Leonard Pet. Co.'s) Staggers (65-ac) 1, Forbes & Nelson sur, elev 370 ft, hard Pecan chalk 2526-3020 ft, base broken Pecan 3095 ft, Austin chalk 3483-3506 ft, dr cement plug 3519 ft. J. E. Crosbie, Inc. (was J. W. Olvey) S. Sibley (25-ac) 1, W. O. Mathews sur, dr 500 ft. Merrill et al's Walcott 1, D. A. Russell sur, dk.

RUSK COUNTY—Byrd & Frost, Inc., et al's Buckner (49-ac) 1, J. E. Peyton sur, jkd 4077 ft and skid rig. Harris & Russell's T. W. Harris (40-ac) 1, W. C. Davis sur, rig. Hathaway et al (was Laster Oil Co.'s) B. B. Gray (171-ac) 1, Jas. McLean sur, elev 315 ft, Pecan chalk 2180-2537 ft, top Austin chalk 2980 ft, cored Georgetown lime 3196 ft, sd for cas 3519 ft. Murray & Goude Oil Co. (was John B. Gregory et al's) R. M. Leath (80-ac) 1, D. Clark sur, Pecan chalk 2600-2960 ft, Austin chalk 3422-3483 ft, logged hard sandy shale 3527-43 ft, top Georgetown lime between 3570-80 ft, td 3632 ft, tested dry and sd. Marr Drilling Co.'s Tom Lacy-Pure (50-ac) 1, J. H. Sparks sur, dr 650 ft. Ross & Seward (was Cap Rock Oil Co.'s L. T. Burton (125-ac) 1, J. J. Y'Barbo sur, elev 439 ft, base Pecan chalk 2905 ft, cored dry Blossom sand 3000-11 ft, jkd 3177 ft. G. H. Vaughan-Kelsey & Ross-Seward's Burton 1-A, dk.

SMITH COUNTY—C. B. Bunte et al's J. Adkinson 1, Calloway Dean sur, elev 377 ft, top broken Pecan chalk 2714 or 2720 ft, hard Pecan chalk 2740-3220 ft, lower Blossom sand 3713-18 ft, Austin chalk 3790-3862 ft, Georgetown lime 4020-30 ft, pb to 3725 ft, fsh junk.

TITUS COUNTY—Perry V. Cook et al's (was C. B. Polk's) M. C. Rogers (1500-ac) 1, B. Moore sur, sd in shale 4125 ft.

UPSHUR COUNTY—J. C. McFarland-Phillips Dev. Co.'s Willis Starr (96-ac) 1, C. H. Cooper sur, elev 274 ft, Pecan chalk 2372-2888 ft, sd litigation 3500 ft.

WOOD COUNTY—Talko Pet. Co. et al's C. S. Ross (86-ac) 1, F. L. Smith sur, sd 2770 ft.

East Texas Border Counties

Completions

HARRISON COUNTY—
Gauchee et al, T. W. Davidson 1, F. O'Neal sur ..... * 3737

MARION COUNTY—
Benedum & Trees, Bertha Tyler 1, Wm. Holloway sur ..... * 3751

Wildcat Drilling Report

(Wells shut down not included)

HARRISON COUNTY — Ryan Cons. Pet. Corp., J. M. Furrh 1, F. O'Neal sur, dk. Gauchee et al, T. W. Davidson 1, Richard Starr sur, elev 298 ft, PG 2388-2932 ft, AC 3594-99 ft, claimed bro sand 3702-9 ft, 6⅝ cemtd 3735 ft, top Georgetown lime 3711 ft, swabbed dry, dry abn, td 3737 ft. J. C. Peterbaugh, Collins 1, J. G. Pentecost sur, elev 251 ft, PG 2261-2826 ft, top Georgetown lime 3616 ft, arr to abn. Triangle Drilling Co., Platt 1, F. C. Baker sur, (320 ac), lcn.

MARION COUNTY — Benedum & Trees, Bertha Tyler 1, Wm. Holloway sur,, elev 236 ft, PG 2214-2760 ft, AC 3505-46 ft, top Woodbine 3565 ft, dry 3563-80 ft, top Georgetown 3600 ft, dry abn GT lime, td 3751 ft. Nash et al, Henderson 1, G. L. Bledsoe sur (320 ac), rig.

PANOLA COUNTY—Root-Skinner, Daniels 1, Isabel Hanks sur, elev 297 ft, sd 450 ft. Daisy O&G Co., Rucks Hrs. 1, Jno. Palmer sur, sd 3360 ft, sandy lime.

SHELBY COUNTY—E. L. Chapman, Holt 2, Matthew Moore sur, claimed oil show, 6⅝ cas 3725 ft, sd 3951 ft. Pickering 2, D. S. Haight sur, sp 12½ inch 180 ft, sd 736 ft. K. H. Francis, Jno. Mims 1, Mary Smith sur, fsh 3382 ft. Sedberry et al, Pickering 1, Jane Stoddard sur, dr 960 ft, shale. Wray & Dunbar, Hayden 1, D. T. F. Yordt sur, dr shale 1100 ft. McRobie et al, Windham 1, Wm. Leach sur, pulling cas, td 3399 ft. Ridgeway et al, Polley 1, Domingo Gonzales sur, dr shale 1250 ft. Mauding et al, Frost Lbr. Ind. 1, A. B. Fountain sur, fsh ds, td 3276 ft. Western World Pub. Co., Foster & Billingsley 1, J. Nowlin sur, dr shale 2695 ft.

Permits for Texas Wells

ARCHER COUNTY—G. A. Gifford, Antelope. J, C. Stinnett, 116, 1, W. L. Herring sur, 975 ft from n and 780 ft from w line. D. L. Wolf, Olney, W. O. Davis, 80, 1, TE&L sur, 150 ft from w and 1350 ft from s line. Bridwell Oil Co., Wichita Falls, J. S. Bridwell, 50, 1, W. P. Aldridge sur, 990 ft from s and w lines. Continental Oil Co., Fort Worth, Falls, C. S. L. D., 51, 4, Falls, C. S. L. sur, 400 ft from w and 182 ft from n line; 3, 200 ft from n and w lines. Perkins & Cullum, Wichita Falls, C. L. Abercrombie, 169, 2, Club Ranch sur, 2701 ft from w and 1268 ft from s line. W. E. Maxon, Jr., et al, Wichita Falls, E. C. Green, 320, 15B, J. Levins sur, 225 ft from w and 2983 ft from s line of sur. C. B. Long, Wichita Falls, E. E. Hildebrand, 67, 1, J. W. Harris sur, 1760 ft from w and 1050 ft from n line. O. N. Beer, Wichita Falls, W. L. Andrews, 30, 1, J. Collingsworth sur, 4037 ft from s and 396 ft from w line. Deep Oil Dev. Co., Wichita Falls, L. W. McCrory, 138, 1, B 75, Amer. Trib. sur, 375 ft from w and 330 ft from s line, lot 2. Shappell Oil Co., Wichita Falls, Kemp & Kempner, B, 40, 10, W.V.F.L. sur, 200 ft from e and 150 ft from n line, blk 43. Nix & Alexander, Wichita Falls, T. B. Wilson, 200, 1, Harris Subn. sur, 200 ft from n and w lines. T. B. Wilson, 200, 1B, Harris Subn. sur. 150 ft from n and w lines.

BEE COUNTY—United Prod. Corp., Houston, drilled by Texas Company. J. Scott, 4000, 4, J. Uranga sur, 472 ft from n cor and 589 ft from w line.

BEXAR COUNTY—Chiquita Oil Co., San Antonio, R. Pollock, 200, 3, J. W. Riall sur, 330 ft from s and 3300 ft from w line.

CALDWELL COUNTY—Louis Crouch, Lockhart, S. Nealon, 2, 150 ft from e and 450 ft from n line.

CALLAHAN COUNTY—Ungren & Frazier & Byram, Abilene, I. N. Jackson, 160, 1, No. S21, E. T. Ry. sur, 200 ft from n and w line, se¼ ne¼.

CHAMBERS COUNTY—Texas Gulf Prod. Co., Houston, Kirby, 111, B 10, H. Griffith sur, 250 ft s of center of n line.

COLEMAN COUNTY—Hayek Oil Co., Fort Worth, T. Stevens, 20, 1, S 20, H. T. & B. sur, 510 ft from n and 150 ft from w line.

COLORADO COUNTY—Coyle Concord Oil Co., San Antonio, S. Nelson, 648, 1, S 43, I. & G. N. sur, 2212 ft from w and 3710 ft from s line.

CROCKETT COUNTY — Stanolind Oil & Gas Co., Fort Worth, Massie, 160, 1, S 47, B UV, G. C. & S. F. sur. 660 ft from s and w lines se¼.

DUVAL COUNTY—Duval Oil Corp., San Antonio, Bishop, 320, 9, S 135, 2608 ft from w and 990 ft from n line. Co-Operative Drilling Co., Laredo, Jno. Dinn, 40, 5, S 454, B 5, 264 ft from n and 150 ft from w line.

FALLS COUNTY—K. H. Francis, Waco, G. J. Guderian, 25, 1, F. Ruble sur, 160 ft from ne and 650 ft from se line.

FORT BEND COUNTY—Texas Co., Houston, M. H. Gubbels, 100, 1, S. Kennedy sur, 100 ft from s and 742 ft from e line. Gulf Prod. Co., Houston, F. I. Booth, 1107, 1, S. Kennedy sur, 445 ft n of center of s line.

GREGG COUNTY — B. K. Isaacs, Fort Worth, T. B. Harris, 61, 2, J. Ruddle sur, 330 ft from n and w lines. Sells Petroleum Co., Inc., Tyler, R. Fisher, 63, 3, W. G. Painter sur, 330 ft from s and e lines. Superior Oil Co., Dallas, A. Jones, 64, 7, G. W. Hooper sur, 340 ft from w and 330 ft from s line. Abernathy & Kirkpatrick, Gladewater, R. M. Wood, 3½, 4, Wood Heights sur, 200 ft from e and 96 ft from n line, blk 132; R. M. Wood 3, 5, Wood Heights sur, 280 ft from e and 174 ft from n line, blk 133. Pilot Oil Co., Dallas, T. B. Harris, 91, 4, W. H. Castleberry sur, 492 ft from e and 330 ft from s line. Geo. P. Hill, Fort Worth, A. O. Gaines, 3, 1, Gladewater sur, center of blk 16. Adams & Lyles, Lockhart, L. Howard, 49, 2, J. M. Scott sur, 330 ft from e and 50 ft from s line. W. M. Angle, Longview, Clayborn Hrs., 10, 2, I. Baity sur, 150 ft e of center of w line. Washington Oil Corp., Dallas, Cobb, 31, 2, C. Rhodes sur, 330 ft from n and w lines. Mullendore & Berry, Kilgore, W. W. Elder, 20, 4, M. Van Winkle sur, 150 ft from e line and 300 ft n of 3. Liner Inc., Marshall, W. H. Warlick, 5, 1, I. Baity sur, center. Sinabar Oil Co., Longview, Geo. Anderson, 6, 1, C. Alexander sur, 140 ft from w and 139 ft from n and s lines; 2, 111 ft from e and 139 ft from n and s lines. Rowan & Bristow, San Antonio, W. A. Moore, 28, 4, D. Moore sur, 330 ft from w and 363 ft from s line. East Texas Loan & Inv. Co., Dallas, Geo. Anderson, 12, 2, C. H. Alexander sur, 160 ft from s and w lines. Deep Rock Oil Co., Tulsa, Okla, H. Prichard, 110, 5, F. W. Johnson sur, 362 ft from w and 330 ft from n line. Meridian Pet. Corp., Tulsa, Okla., T. W. Lee, 53, 4, Rigsby & Crosby sur, 240 ft from w and 65 ft from s line. R. T. Dudney, Longview, W. P. Crews, 4, 1, I. Baity sur, 226 ft from n and s and 187 ft from e and w lines. Lucey Pet. Corp., Dallas, R. Christian, 33, 3, G. W. Hooper sur, 177 ft from s and w lines; 4, 168 ft from e of center of w line. Allender & Rassmussen, Tyler, J. M. Dickson, 106, 1, I. Baity sur, 330 ft from s and 169 ft from e line. Woodley Pet. Corp., Shreveport, La., T. D. Harris, 31, 3, Wm. Castleberry sur, 330 ft from e and 260 ft from n line. Petroleum Finance Corp., Longview. A. M. Kinsel, 24, 2, H. H. Kirk sur, 230 ft from e and 288 ft from n and s lines. Black, Collins & Stroube, Corsicana, J. Suprrier, 30, 3, Castleberry sur, 350 ft from n and s lines and 686 ft e of 1. H. H. Parks, Calion, Ark., P. Crews, 4, 1, I. Baity sur, center. Allender & Rassmussen Oil Co., Tyler, J. M. Dickson, 106, 4, I. Baity sur, 330 ft from s and 829 ft from e line. Miller-Lacy Oil Co., Longview, W. R. Nicholson, 10, 1, M. Mann sur, 291 ft from e and 350 ft from s line, lot 2. A. C. Fritz, Wichita Falls, Anderson, 13, 3, G. W. Hooper sur, 330 ft from n and 337 ft from w line. Bay Oil Corp., Tulsa, Okla., W. M. Wheeler, 41, 3, D. Ferguson sur, 330 ft from n and w lines. Winona Oil Co., Dallas, C. Wells, 50, 1, Norris No. 2 sur, 330 ft from s and e lines; 2, 330 ft from s and w lines. Deep Rock Oil Co., Tulsa, Okla., Pritchard, 40, 1, F. Johnson sur, 330 ft from n and 362 ft from e line. Gulf Prod. Co., Houston. R. H. Still, 189, 3, J. Wilkinson sur, 330 ft from n and e lines; 4, 330 ft e of center of w line. W. Holt, 201, 10, Jno. Blair sur, 330 ft from w and 1089 ft from s line. G. W. Culver, 208, 9, J. Wilkinson sur, ne corner. F. M. Fonville, 100, 4, Wm. Tyndale sur, 330 ft from n and w lines. W. Clayton, 50, 4, L. B. Outlaw sur, 339 ft from e and 330 ft from s line. J. S. Elder, 39, 2, Jno. Wilkinson sur, 345 ft from n and 320 ft from e line. Midas Oil Co., Dallas, Bacle, A, 6, 5, Hooper sur, 186 ft from e and 187 ft from n line. Bacle, 7, 2, Hooper sur, 217 ft from s and 185 ft from w line. Bacle, 6, 4, Hooper sur, 186 ft from w and 187 ft from n line. California Pet. Corp., Shreveport, La., W. M. Clements, 60, 2, M. Mann sur, 267 ft from e and w lines and 818 ft n of No. 1. Atlantic Oil Prod. Co., Dallas, J. W. Bacle, 30, 4, Hooper sur, 409 ft from e and 158 ft from s line. Burnside, A, 204, 8, Johnson sur, 2970 ft from n and 330 ft from e line; 9, 2310 ft from n and 330 ft from e line; 10, 1650 ft from n and 330 ft from e line; 11, 990 ft from n and 330 ft from e line. Judge, 520, 5, Johnson sur, 1565 ft from e and 1900 ft s of ne corner; 6, 1656 ft from e and 2560 ft s of ne corner. Atlantic Oil Prod. Co., Dallas. Judge, 520, 7, Johnson sur, 1580 ft from e and 3235 ft s of ne corner; 8, 2825 ft from e and 1865 ft s of ne corner. H. Pritchard, 100, 1, F. W. Johnson sur, 330 ft from n and e lines. J. Bander, 84, 6, D. Ferguson sur, 982 ft from w and 171 ft from n line. W. P. Duncan, 155, 8, D. Ferguson sur, 1055 ft from w and 171 ft from s line. Barnwell, C, 51, 4, McAnally sur, 213 ft from w and 330 ft from s line; 5, 213 ft from w and 330 ft from n line. Sabinas Oil Corp., Longview, J. W. Falvey, 59, B 3, M. Mann sur, 824 ft n of 2A. Yount-Lee Oil Co., Beaumont, J. C. McKinley, A, 63, 4, Wm. Robinson sur, 330 ft from s and 170 ft from w line. Cranfill & Reynolds, Houston, J. M. Blackman, 36, 3, W. P. Chisum sur, 330 ft from n and w lines. Republic Prod. Co., Houston, Wm. Clayton, 60, 4, L. B. Outlaw sur, 330 ft from e and 323 ft from s line. Empire Gas & Fuel Co., Gladewater, E. L. Walker, 160, 2, Jno. Tate sur, 330 ft from n and 220 ft from e line. E. Muckelroy, 37, 3, J. S. Caruthers sur, 330 ft from n and 125 ft from e line. L. A. Jeter, 122, 9, Crosby & Tyndale sur, 330 ft s of center of n line. Sinclair-Prairie Oil Co., Fort Worth, J. W. Akin, 97, 6, W. Castleberry sur, 726 ft from s and 330 ft from w line. A. A. King, B, 337, 10, A. Cormack sur, 763 ft e of 14; 14, 3621 ft from w and 330 ft from s line; 15, 763 ft w of 14; 16, 763 ft w of 15; 17, 1332 ft from w and 330 ft from s line. D. Ledbetter, 191, 6, W. D. Porter sur, 1603 ft from w and 330 ft from n line, (Rusk County). M. T. Cole, 666, 22, S. Brooks sur, 990 ft from n and 3396 ft from e line. J. W. Akin, B, 100, 5, W. H. Castleberry sur, 1016 ft from w and 407 ft from s line. I. Isley, 100, 7, Geo. Rains sur, 1196 ft from n and 330 ft from e line. J. E. Lawther, 320, 4, M. Garrett sur, 760 ft from n and 1512 ft from e line. A. A. King, A, 290, 19, P. Warraner sur, 1030 ft from n and 2640 ft from w line. A. A. Lockhart, 127, 6, Jno. Blair sur, 1167 ft from n and 330 ft from e line; 5, 660 ft e of 2. Invincible Oil Co., Los Angeles, Calif., Weis, 66, 4, J. Armendaris sur, 660 ft e of 1. Tidal Oil Co., Kilgore, M. B. Hughey, 200, 11, J. Hilliard sur, 2310 ft from w and 430 ft from s line. B. Moore, 90, 4, J. Mosely sur, 990 ft from w and 800 ft from s line. Selby Oil & Gas Co., Tulsa, Okla., M. T. Cole, 80, 2, J. M. Meador sur, 330 ft from s and e lines. Snavely Hrs., B, 361, 10, F. W. Johnson sur, 660 ft se of 9B. Kewanee Oil & Gas Co., Tulsa, Okla., Hampton, 169, 11, G. Hampton sur, 330 ft from s and e lines. Stanolind Oil & Gas Co., Longview, Wm. Clayton, 50, 4, L. B. Outlaw sur, 330 ft from e and 352 ft from s line. E. L. Walker, B, 51, 1, Jno. Tate sur, 330 ft from w and 568 ft from s line. M. B. Harley, C, 40, 3, G. W. Hooper sur, 330 ft from n and w lines. Cox & Hamon & Williams, Ardmore, Okla., C. Rodden, 23, 1, L. J. Rigsby sur, 330 ft from n and w lines. Roeser & Pendleton, Inc., Fort Worth, W. R. Nicholson, 94, A4, M. Mann sur, 1320 ft from n and 330 ft from e line. Cox & Hamon, Ardmore, Okla., Fee, A, 59, 2, W. Castleberry sur, 330 ft from n and 180 ft from e and w lines. Roeser & Pendleton, Inc., Fort Worth, W. R. Nicholson, 94, A3, M. Mann sur, 290 ft from w and 1253 ft from s line. W. R. Nicholson, 75, B 2, M. Mann sur, 290 ft from e and 330 ft from s line. Amerada Pet. Corp., Fort Worth, C. Bumpas, 98, 6, W. H. Castleberry sur, 425 ft from w and 1220 ft from s line. Columbia Oil & Gas Co., Dallas, A. Christian, 17, 2, G. W. Hooper sur, 998 ft s of center of n line. Barnsdall Oil Co., Tulsa, Okla., L. Bingham, 100, 7, Castleberry sur, 330 ft from s and e lines. Simms Oil Co., Dallas, J. J. Flewellen, B, 374, 9, M. Mann sur, 330 ft from s and 4105 ft from e line; 10, 433 ft from n and 2010 ft from e line. Selby Oil & Gas Co., Tulsa, Okla., Snavely Hrs., B, 361, 19, F. B. Johnson sur, 486 ft from w and 2143 ft from s line. Magnolia Pet. Co., Dallas, Jno. Radford, 252, 5, J. Hoy sur, 330 ft from s and w lines. L. A. Griffin, 44, 9, M. Van Winkle sur, 168 ft from s and w lines. Humble Oil & Refg. Co., Houston, W. R. Hughes, 245, 10, D. Sanchez sur, 330 ft from n and 2446 ft from w line. J. Castleberry, 172, 1, B. N. Hampton sur, 330 ft from n and w lines. Sun Oil Co., Dallas, Wm. Pentecost, 131, 4, Scott & Outlaw sur, 496 ft from n and 375 ft from e line. W. L. Fuller, 50, 2, D. Sanchez sur, 500 ft from n and 330 ft from e line.

GRAY COUNTY — Skelley Oil Co., Tulsa, Okla., E. Schafer, 640, 10, S 189, B 3, I. & G. N. sur, 2640 ft from e and 440 ft s center line. W. B. Saulsbury, Pampa, M. Davidson, 160, 1, S 87, B B2, H. & G. N. sur, 330 ft from s and w lines.

GUADALUPE COUNTY — Humble Oil & Refg. Co., Houston, D. J. Denman, 150, 4, Wm. Arrington sur, 1510 ft from w and 150 ft from n line.

HARDIN COUNTY — Ada Belle Oil Co., Batson, Texas Co., 6¾, 153, B C, F. Green sur, 127 ft from n and 35 ft from w line. Rio Bravo Oil Co., Houston, . Fee, 320, B136A, BBB&C sur, 180 ft from e and 50 ft n of 129A. Geo. Forsen, Houston, Teagle-Russell, 700, 1, B 20, E. Turnbow sur, 350 ft from s and e lines.

HARRIS COUNTY—Sun Oil Co., Dallas, R.

L. Blaffer, 292, 53, R. Dunman sur, 500 ft from e and 1000 ft from s line; 52, 50 ft from s and e lines. Rio Bravo Oil Co., Houston, Fee, 125, A25, J. Kopman sur, 100 ft from e and 525 ft from s line.

JIM HOGG COUNTY—Clarke & Cowden Oil Co., Duncan, Okla., E. Vela, 1000, 1, 573, El Peyote sur, 2500 ft from w and 3472 ft from s line.

LOVING COUNTY—H. W. Martin, Mentone, Wheat-Ramsey, 8, 3, S 83, B 1, W&NW sur, 330 ft from se and 990 ft from ne line. Martin & Fairlawn Synd., Mentone, I. V. Brookfield, 320, 1, S 30, B 29, School sur, 330 ft from w and 330 ft from n line.

LIMESTONE COUNTY—Bruce Whitcomb, Groesbeck, V. DeLong, 200, 1, P. Varela sur, 150 ft from n and e lines.

McLENNAN COUNTY—C. E. Groover, Waco, First Nat'l Bk., 95, 1, M. Martinez sur, 150 ft from s and e lines.

MASON COUNTY—Waldrop & Kirby, Mason, J. O. Frey, 156, 1, 100 Cert. 498, 1275 ft from w and 522 ft from s line.

ORANGE COUNTY—Texas Co., Houston, M. H. Stark, 1240, 3, M. Beauchamp sur, 350 ft from w and 100 ft from s line.

PALO PINTO COUNTY—D. A. Miller, Strawn, Strawn, 1, B 19, Twste.

RUSK COUNTY—H. H. Hale, Henderson, S. M. Clay, 75, 2, J. Ximinez sur, 660 ft s of 1. J. T. Reese, Henderson, S. M. Clay, 75, 1, J. Big Ximinez sur, 330 ft from w and ne lines. Big Indian Synd. & Everts Dr. Co., Dallas, W. R. Wolford, 40, 5, Jas. Jordan sur, 200 ft from w and 110 ft from n line. Union Oil Co., Dallas, A. J. Deason, 10, 2, M. J. Pru sur, 208 ft from e and w lines and 150 ft from s line. G. B. Ray, Tyler, L. J. Pinkston, 50, 3, M. J. Pru sur, 330 ft from s and e lines. Jenkins Oil Corp., Dallas, Jobe, 109, 8, J. Ximinez sur, 150 ft from n line and 660 ft e of 1; 9, se corner. M. W. Camp, 38, 5, J. Ximinez sur, 330 ft w of center of e line. Hal Houghton, Henderson, W. E. Wylie, 10, 1, J. Ximinez sur, 330 ft from s and 160 ft from e and w lines. Smith & Torrance, Tyler, W. W. Holland, 14½, 4, M. J. Pru sur, 330 ft from s and 250 ft from w line. Shasta Oil Co., Longview, H. Alexander, 24, 2, Thos. Grace sur, 330 ft from s and w lines. R. H. Dearing & Sons, Dallas, L. L. Jones, 20, 2, F. Cordova sur, 330 ft from n and 215 ft from e line. Willard Oil Co., Henderson, Jno. Alford, 21, 2, T. J. Moore sur, 150 ft from s and e lines. C. M. Joiner, Dallas, W. D. Tucker, 2, 1, J. Lindley sur, center. London Pet. Corp., Tyler, M. L. Thompson, 7, 3, F. Cordova sur, 65 ft from e and 46 ft from n line. L. E. Darnell, Overton, Fee, 5, 1, W. G. Tutt sur, center. W. L. Stearns, Tyler, Mt. Lidy Ch., 1½, 1, J. Ximinez sur, 271 ft from n and 54 ft from e and w lines. Mills Bennett Prod. Co., Houston, W. J. Brightwell, 88, 10, Winn & Smith sur, 266 ft from s and 847 ft from e line. W. M. Shaw, Fort Worth, E. B. Alford, 5, 1, B 26, T. J. Moore sur, center. J. E. Maybee Co., Arp, S. Stone, 18, 2, M. J. Pru sur, 260 ft from n and 185 ft from e and w lines. Grelling & Boren, Tyler, E. L. Pinkston, 10, 1, J. B. Cadena sur, 330 ft from s and e lines. Johnson & Rogers, Tyler, C. W. Mullins, 30, 3, F. Cordova sur, 275 ft from n and 150 ft from w line. Great Western Oil Corp., Tyler, F. Birdsong, 5, 2, I. Ruddle sur, 100 ft from e 18 and 439 ft n of s corner. Ward Oil Corp., Ardmore, Okla., E. S. Thrash, 200, 13, F. Cordova sur, 330 ft from e and 963 ft from n line. Geo. B. Ray, Tyler, J. B. Wilson, 51, 4, M. J. Pru sur, 370 ft from s and 429 ft from w line. Golding-Murchison Oil Co., Dallas, C. Young, A, 10, 2, M. J. Pru sur, 165 ft from n and 150 ft from w line. Deep Rock Oil Co., Tulsa, Okla., T. J. Stovall, 194, 9, J. B. Cadena sur, 1573 ft from s and 330 ft from e line. Tulsa Oil Co., Tulsa, Okla., J. E. Wheelis, 40, 4, D. Shaw sur, 330 ft from w and 450 ft from s line. Navarro Oil Co., Houston, C. Young, 30, 2, T. J. Martin sur, 330 ft from n and 346 ft from w line. British American Oil Prod. Co., Tulsa, Okla., Mayfield, 46, 3, J. B. Cadena sur, 330 ft from w and 284 ft from n line. Blackwell Oil & Gas Co., Kilgore, W. P. Moore, 33, 5, M. J. Pru sur, 500 ft e of 4, and 200 ft n of s line. Sinclair Oil & Gas Co., Fort Worth, W. H. McCord, 50, 2, J. B. Cadena sur, 330 ft from s and w lines. W. D. Kinney, 579, 25, J. B. Cadena sur, 1190 ft from e and 39 ft from s line, blk 29; 28, 1231 ft from e and 50 ft from s line, blk 31. D. Ledbetter, 191, 6, W. D. Porter sur, 1603 ft from w and 330 ft from n line. W. T. Grissom, 50, 2, W. D. Porter sur, 330 ft from n and w lines. P. Tipps, 230, 1, B. F. Poindexter sur, 330 ft from n and e lines. (Amended location), A. Kersh, 155, 1, E. B. Foulks sur, 330 ft from n and 937 ft from w line. Sun Oil Co., Dallas, E. Till, 127, 1, M. V. Pena sur, 330 ft from s and 100 ft from w line. H. L. Hunt, Tyler, V. E. Reid, 120, 4, T. J. Martin sur, 2598 ft from e and 350 ft from s line. I. R. Thrash, 58, 5, F. Cordova sur, 330 ft from n and e lines. Humble Oil & Refg. Co., Houston, J. W. Turner, 125, 9, J. M. Scott sur, 330 ft from s and w lines. J. T. Sexton, 137, A4, M. McCabe sur, 330 ft from s and 1650 ft from w line. V. Turner, 123, A3, T. J. Martin sur, 330 ft from e and 1255 ft from s line. H. A. Piercy, A, 91, 5, T. J. Martin sur, 330 ft from s and 990 ft from e line. C. Young, 33, 1, T. J. Martin sur, 330 ft from s and e lines. J. E. Sexton, A, 70, 3, M. McCabe sur, 330 ft from n and 600 ft from e line. F. F. Wooster, 50, 3, W. H. Bears sur, 330 ft from e and 385 ft from s line. R. E. L. Silvey, B, 209, 6, T. J. Martin sur, 837 ft from w and 330 ft from s line. M. Wooster, 70, 5, W. H. Bears sur, 330 ft from w and 740 ft from n line. W. A. Mullikin, 166, 12, T. J. Martin sur, 330 ft from n and 670 ft e of n 10. H. White, B, 134, B2, J. M. Scott sur, 330 ft from n and 194 ft from w line. Mrs. W. L. Price, 207, 17, A. Melton sur, 184 ft from n and 177 ft from e line. R. E. L. Silvey, 3, D 1, A. Melton sur, 178 ft from e and w and 184 ft from n and s lines. Texas Co., Shreveport, La., J. W. Turner, 70, 4, J. M. Scott sur, 330 ft from s and e lines. First State Bank, 160, 6, J. C. Smith sur, 330 ft from e and 1728 ft from n line. Stanolind Oil & Gas Co., Longview, W. H. Siler, 949, 6, T. M. White sur, 1580 ft from n and 330 ft from w line. Mid-Kansas Oil & Gas Co., Shreveport, La., D. Ledbetter, 212, 2, W. J. Roan sur, 413 ft from e and 425 ft from s line. M. A. Price, 202, 4, J. B. Cadena sur, 330 ft from n and 1190 ft from e line. H. C. Burton, 254, 5, W. D. Porter sur, 330 ft from w and se lines. H. C. Burton, 62, 3, W. D. Porter sur, 330 ft from s and nw lines. C. L. Graham, 135, 6, J. B. Cadena sur, 330 ft from n and e lines. J. Mills, 44, 4, J. B. Cadena sur, 330 ft from e and 336 ft from n and s lines. Gulf Prod. Co., Houston, S. B. Stone, 107, 5, Shaw, D. sur, 311 ft from w and 326 ft from s line. L. P. Thrash, 78, 4, F. Cordova sur, 288 ft from e line and 430 ft from n of 2. H. C. Alexander, 209, 9, M. Van Winkle sur, 330 ft from s and (Gregg County). C. E. Christian, A, 164, 8, R. M. Smith sur, 983 ft from w and 330 ft from s line. Sexton, 165, 3, M. McCabe sur, 660 ft ne of 1. C. E. Christian, 277, 13, W. W. Simms sur, 330 ft from s and e lines. G. G. Turner, 312, 10, F. Cordova sur, 660 ft n of 8.

SMITH COUNTY—C. B. Bunte, Inc., Tyler, A. S. Jarvis, 41, 3, S. H. Dexter sur, 330 ft from s and w lines. C. L. McMahon, Tulsa, Okla., S. S. Cook, 40, 5, Jas. Jordan sur, 289 ft n of center of s line. Nash & Bloxom, Henderson, F. Cole, 31, 2, E. Daniels sur, 330 ft from e and 140 ft from n line. Bailey Gaunce et al, Tyler, S. S. Cook, 20, 1, J. Vargas sur, 150 ft from s and w lines. M. B. Rudman, Tyler, S. S. Cook, 50, 2, J. Vargas sur, 150 ft from e and 260 ft from s line; 1, J. Vargas, Blk. 9, 208 ft from n and 150 ft from e line; 3, J. Vargas, Blk. 10, 260 ft from e and 300 ft from s line. Dale Roberts, Henderson, J. P. Lanham, 9, 1, J. Vargas sur, 330 ft from e and 150 ft from n and s lines. McClure, Quintella & McCullough, Tyler, J. Cole, 6, 1, Jas. Jordan sur, 156 ft from s and 130 ft from e and w lines. Sun Oil Co., Dallas, J. J. Denton, B, 37, 1, J. Vargas sur, 489 ft from n and 330 ft from e line. Iowa-Payne Oil Co., Marshall, F. B. Wilson, 25, 2, Jas. Jordan sur, 365 ft from w and 330 ft from n line. Sinclair-Prairie Oil Co., Fort Worth, E. E. Moore, 104, 3, J. Vargas sur, 256 ft from e and 214 ft from n line. A. Wiley, 331, 6, Jas. Jordan sur, 330 ft from n and e lines. B. Wilson, 65, 3, Jas. Jordan sur, 330 ft from n and e lines. G. Patterson, 162, 4, J. Vargas sur, 330 ft from e and 1226 ft from s line. Mayfield, A, 374, 18, Jas. Jordan sur, 990 ft from n and 4539 ft from e line; 9, 269 ft w of center of e line.

STARR COUNTY—E. M. Jones, San Antonio, F. T. Chatfield, 20, 1A, B 3. Por 80, 200 ft from s and e lines. Frank Dawson, Mercedes, R. E. Margo, 500, 1, Share 3B, Por. 70, 632 ft from n and 516 ft from e line, blk 5. R. E. Johnston, Rio Grande City, Fee, 28, 1, Sh. 32, Por. 80-81, 150 ft from s and w lines. O. W. Killam, Laredo, D. G. Wood, 2000, 1, Por. 84, 1230 ft e of center of w line. Day & Co., Rio Grande City, J. P. Bass, 20, 1, S 6, Por. 6-7, 150 ft from s and 450 ft from e line w½ ne¼ of nw¼. Felder, Mitchell & Barnsley, Laredo, A. K. Bass, 40, 1, B 8, Por. 75-76-77, 450 ft from n and w lines.

SHACKLEFORD COUNTY—Union Oil & Mining Co., Tulsa, Okla., L. C. Huskey, 320, 52, 548, TE&L sur, 1320 ft from n and 1550 ft from e line. R. C. McCarter, Rising Star, L. T. Ledbetter, 240, 1, 658, TE&L sur, 46 ft from se and 2134 ft from ne line. Dickey Bros., Albany, E. Webb, 320, 8, 576, TE&L sur, 590 ft from s and e lines. E. J. White, Eastland, E. L. Smith, 37, 1, S 18, B 11, T&P sur, 819 ft from n and 1705 ft from e line.

UPSHUR COUNTY—Woods & Salome, Longview, A. J. Sanders, 45, 5, T. Allen sur, 238 ft from w and 330 ft from s line. East Texas Oil & Refg. Co., Dallas, B. Doby, 43, 3, M. Mann sur, 151 ft n of center of s line. Conservative Oil Co., Dallas, E. O'Byrne, 20, 1, D. Ferguson sur, 592 ft from e and 367 ft from s line. Simms Oil Co., Dallas, W. R. Nicholson, 800, 5, M. Mann sur, 2195 ft from e and 330 ft from s line; 4, 1093 ft from e and 330 ft from n line. Mudge Oil Co., Tyler, A. T. Shelton, 9, 1, D. Ferguson sur, 380 ft from w and 330 ft from s line. J. W. Free, A, 105, 7, D. Ferguson sur, 330 ft from n and w lines. Humble Oil & Refg. Co., Houston, J. K. Edwards, 200, 17, D. Ferguson sur, 330 ft from e line and 660 ft s of 16.

VAN ZANDT COUNTY—Pure Oil Co., Ft. Worth, A. W. Ellison, 67, 4, Jas. Rose sur, 700 ft from n and 225 ft from w line.

WICHITA COUNTY—F. C. Baldwin et al, Ft. Worth, G. Dobil, 55, 6, DL&C sur, 675 ft from s and 710 ft from e line. Mogren & Anderson, Electra, E. E. Goetze, 151, 27, SA&MG sur, 150 ft from e and 450 ft from s line. Regal Oil Co., Wichita Falls, H. M. Munger, 60, 3, M. Roberts sur, 150 ft from n and 635 ft from w line. R. R. Clark et al, Wichita Falls, J. F. Bickley, 400, 20, C&M Ry. sur, 1162 ft from e and 1150 ft from n line. W. H. Hammon et al, Wichita Falls, S. H. McCarty, A, 20, 13A, W. R. Eaves sur, 50 ft sw of 11A. Petroleum Prod. Co., Wichita Falls, W. Chilson, 20, 1, D.C.S.L. sur, 150 ft from n and e lines. L. T. Burns, Wichita Falls, J. E. Waggoner, 285, 9, M. A. Willis sur, 150 ft from n and w lines of lot 11. Schlaffke & Blair, Electra, W. B. Honaker, 43, 2, DL&C sur, 1270 ft from n and 1400 ft from w line.

WARD COUNTY—Leidecker-Clayton, Royalty, J. B. Bennett, 80, 1, S 16, B 34, H&TC sur, 330 ft from s and e lines of nw¼.

WALKER COUNTY—Geo. F. Kerr, Huntsville, Smithers, 547, 1, S. Manning sur, ne cor.

WEBB COUNTY—Tompkins & Edwards, Laredo, Ortiz, 320, 1, S 1808, GC&SF sur, 2000 ft from n and 200 ft from e line. Magnolia Pet. Co., Dallas, F. Benavides, 380, 2, S 660, SK&K sur, 400 ft s of 7, 200 ft from n and 150 ft from e line. McGinley Corp., Ft. Worth, A. S. Billings, 40, 1, S 71, B 1, CCSD&RGNG sur, 450 ft from n and 150 ft from w line. French Oil Corp., Laredo, R. Benavides, 40, 4A, S 659, 150 ft from w and 2640 ft from n line.

WILBARGER COUNTY—Davis Oil Corp., Vernon, J. McCrary, 40, 1, S 64, B 14, H&TC sur, 150 ft from n and e lines.

YOUNG COUNTY—Jno. L. McMeans, Ft. Worth, J. G. Hawkins, 40, 1, 1917, TE&L sur, 150 ft from s and 877 ft from e line. S. E. Beorus et al, Wichita Falls, W. L. Montgomery, 72, 1, 3410, TE&L sur, 150 ft from e and 870 ft from s line of sec. King Royalty Co., Wichita Falls, J. F. Larimore, 160, 39, 2246, TE&L sur, 300 ft s of 38. L. A. Long, Graham, R. M. Williams, D, 1, R. O. Wolfork sur, 162 ft from se and 200 ft from sw line. Kleiner & Riggs, Graham, J. F. Larimore, A, 80, 8, 2246, TE&L sur, 450 ft from s and 150 ft from e line. C. W. Clark, Wichita Falls, W. T. Rushing, 120, 1A, 3401, TE&L sur, 450 ft from n and 1650 ft from e line. Primrose Refg. Co., Wichita Falls, G. P. Stewart, 1, D. Dawson sur, 150 ft sw of ne corner.

ZAPATA COUNTY—McGinley Corp., Laredo, G. G. Flores, 640, 1, S 250, 150 ft from nw and 750 ft from ne line. Hunt & Polk, Houston, H. Ramirez, 40, 1, Sh. A. Villa sur, 7075 ft from s and 2918 ft from w line. Allied Oil & Gas Co., Laredo, E. Gutierrez, 532, 22, Las Comitas sur, 350 ft nw of 15.

NORTH and WEST TEXAS

Crocket County Wildcat Test Follows Lease Deal
Plan Pipe Line to Serve Northwest Pecos County

H. H. KING, *Staff Representative, Fort Worth, Texas*

Second Andrews County Test Better Than Discovery

SAN ANGELO, TEXAS, MAY 13. A SECOND flowing well has been added to Fuhrman Petroleum Corporation's wildcat block in south central Andrews County with preliminary gauge indicating a larger producer than the discovery well. The company's W. S. Boner 1, located about one mile southeast of the discovery well on the W. T. Ford ranch in Section 16, Block A-43, P. S. L. survey, cleaned itself and flowed at the rate of about 300 barrels of oil daily when shot with 390 quarts in lime at 4220 to 4333 feet. It has a total depth of 4541 feet.

The Ford discovery well was completed in November, 1930, making 225 barrels flowing, after second shot in lime, but plugged back from 4613 to 4564 feet because of bottom hole water.

The new well has a surface elevation of 3196 feet, and that of the first producer is 10 feet lower.

About five million cubic feet of gas is reported to be showing with the oil at the new well. No market is available for this isolated production of oil and gas, and it may be necessary to do more drilling before an outlet can be obtained.

The Texas Company has made contract to sub-lease a portion of its large wildcat block in southwestern Crockett County that will result in the drilling of a 2500-foot test shortly by a group of independents in lieu of a deep test previously authorized by the former to be drilled on the B. B. Ingham ranch, Section 36½, Block 1, I. & G. N. Ry. Survey. Re-conditioning work is in progress on The Texas Company's J. S. Todd 1, a wildcat producer acquired in February, 1926, from Joe Cook et al as a gasser with small oil showings at a total depth of 1699 feet. The well was deepened to 2102 feet several months later but plugged back because of water and shot with 40 quarts. The gas has since exhausted, but the well is making a small amount of oil and some water when tested. No market is available for production in this area.

Cardinal Oil Company has acquired a 50 per cent interest and control of Phillips Petroleum Company's drilling block and two shallow oil pumpers in northwestern Pecos County and on the Courtney-Pryor ranch, Section 78, Block "OW", T. M. Ry. Survey. The former will construct about 11 miles of small line from the wells to a tank car rack near Fort Stockton so as to provide a steady transportation outlet for the output of the two pumpers and other tests to be drilled shortly. The two wells were completed in the fall in 1929, and shut in for lack of a market.

Two Killed Near Hendrick Field When Nitro Explodes

San Angelo, Texas.—The bodies of two men conveying a truck load, or about 500 quarts of nitroglycerin from a Pawhuska, Oklahoma, plant to a magazine near the Hendrick field were virtually obliterated when the cargo exploded while on the highway west of Midland early May 11. The victims were reported to be W. K. Judy, 46, Tulsa, manager of Osage Torpedo Company, and Bill Schoffield, 30, of Pershing, Oklahoma. Persons arriving at the scene shortly after the explosion reported that a portion of a man's hand was the largest pieces found of the two bodies.

Connection Committee Gets East Texas Cooperation

Dallas, Texas.—A greater number of crude purchasing companies in the East Texas oil field are giving support to the field's well connection committee in providing market relief for unconnected wells than at any time within the past month. The bi-monthly meeting of the committee was held here May 9, and resulted in relief being pledged for 41 wells, according to Jack Pew, Sun Oil Company, chairman of the body. Approximately 20 additional wells with applications for connections on file were given consideration, but action was deferred until connections are completed for the above group, which were the oldest on the list.

Pipe line connections for leases with first production have been difficult to obtain since the posting of a 98 cent crude price in the field on April 1 accompanied by a heavy increase in drilling. Purchasers were alarmed by this new drilling, owing to the forthcoming burden of absorbing the connections, and also were doubtful of the price holding. During the weeks that have followed a feeling of confidence in the price situation has developed, and new field work has been less aggressive.

Crude purchasers that have heretofore frowned on taking additional outside oil were included in the group that assisted the committee in providing market relief for unconnected wells last week. Several companies helped out by taking care of wells even though not desirous of same.

North and West Texas Field Developments

Completions

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
C. W. Clark et al, J. M. Spoonts 1	*	1483
Deep Oil Dev. Co.-Linsay Drlg. Co., Wilson 1, Lse. 5-A	100	5750
Ed. B. Lawson et al, W. L. Andrews 1	*	2302
W. E. Maxson, Jr., et al, F. C. Green 14-B	55	1135
Geo. Pace et al, Green 4	30	1174
J. J. Perkins-Cullum et al, Titkin-Falls 8	80	1122
Titkin-Falls 9	90	1132
Schultz & Weaver, F. C. Green 9	200	1143
WICHITA COUNTY—		
F. C. Baldwin et al, Overall 5	15	570
WILBARGER COUNTY—		
John O'Neil et al, Castlebury 1	15	1532
YOUNG COUNTY—		
Lester T. Burns et al, Orr 1, Sec. 631	*	653
W. M. Cook et al, Belknap 1, Sec. 23	*	1010
S. D. Glover et al, Porter 1	*	730
Luther & Hedrick, Jones 1, Sec. 25	*	780
King Royalty Co. et al, Larimore 38, Sec. 2246	240	709
Larimore 13-C, Sec. 2246	*	715
E. R. Riggs et al, Leberman 1, Sec. 210	*	902

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
GLASSCOCK COUNTY—		
F. R. Peck & Service Drlg. Co., R. L. Gillean 1	*	2415
HOWARD COUNTY—		
Schermerhorn Oil Co., Kloh-Rumsey-Abrams 4	1200	2530
LOVING COUNTY—		
Wm. Little et al, Hugo Freels 1	185	4250
PECOS COUNTY—		
Cardinal Oil Co., Tippett-Shell 4-F	50	352
WARD COUNTY—		
Buck Sturm-Nolen Drlg. Co., J. D. Jones 2	150	2497

SOUTH TEXAS

Victoria County Extension Well Finds Third Gas Sand
Outlet Provided for Rio Grande City

EARL POST, ***Staff Representative, San Antonio***

Duval County Extension May Be Another New Field

San Antonio, Texas. — Humble Pipe Line Company will extend a pipe line from the Government Wells field to Capps & Smith's new producer, and will run oil for The Texas Company which has made location for Ruix 1 on Survey 127, about one mile due east of the producer.

San Antonio, Texas.—Another important discovery in Duval County, indicating an extension of a slight bit more than two miles to the Government Wells area for the opening of an entirely new field, was completed May 8. The well was L. W. Capps and Smith's Duval Ranch 1-A, 2040 feet from the northwest and 225 feet from the southwest line of Section No. 574.

The well had 20 feet of sand from 2375 to 2395 feet and was flowing at an initial rate of 60 barrels an hour through a quarter-inch choke, or a total of 1440 barrels daily. It is aout 1000 feet north of the operators' Duval Ranch 1, Section 576, which on April 17 was brought in for 40,000,000 cubic feet from 2412 feet, after showing a small gasser at its original completion depth of 2350-55 feet.

The interesting features of the two wells is that both of them had to be completed by May 10 to perpetuate the leases. In story-book style, the wells were brought in, the first defining a gas producing area and the second opening an oil pool or an important two-mile southwest extension to the present Government Wells prolific oil and gas area.

The Texas Company had turned 240 acres to this company for the drilling of two wells, the completion date being set at May 10. The bringing in of these producers perpetutated the leases on a large block held jointly by The Texas Company and the Ohio Fuel & Supply Company.

Sun Oil Company has a lease within 600 feet of the new oil producer, the Magnolia Petroleum Company also has a lease about the same distance. Both companies are expected to join in immediate drilling. In other words, it may be expected that no less than six tests will be underway in the area immediately. Other companies hold choice stuff in the vicinity of the new strike, some of which should bring several important wildcats.

Along the same strike line and 1¼ miles farther south, John F. Camp's Weil 1, Section 570, was abandoned at 2523 feet. This well cored a sand from 2430-38 feet, which showed saturation. Drill stem tests failed and casing was set. When drilled in, the well developed salt water. It was deepened and then abandoned.

In the main field (Government Wells), Duval Oil Corporation was reported to have been swabing in Bishop Cattle Company 9, Section 135. This well topped the sand at 2352 feet, where casing was set.

Pipe Line Outlet Planned For Rio Grande City Field

San Antonio, Texas.—An outlet for Rio Grande City field in Starr County seemed assured with the announcement of Gulf Coast Oil Company that it had closed contracts for the laying of a pipe line from that field to loading racks at Rio Grande City. William F. Morgan, of the company, declared that construction on the four-inch line would commence immediately. Arrangement had been completed for loading racks, etc.

The oil will be shipped by tank car to the company's facilities at the Corpus Christi turning basin, where it will be shipped by tanker.

The company has not yet posted a price on the crude from this area, but an announcement is expected at most any time.

It is reported that this company will further extend its gathering facilities to the Los Olmos pool, a shallow producing area, eight miles farther north.

A number of interesting trades have been reported in the district during the past several days, including some of the larger independent operators. Some of the deals call for the immediate drilling of wells. Considerable cash also was reported to have been involved in several of the deals. Most of the activity has been in wildcat territory, although one or two pieces of producing property were traded.

The shallow prolific producers are creating considerable attention. Early in the week, Jack Tarver completed his Kelsey Bass 4, located on Section 7, Porcion 75-76-77, from the 450-foot sand for an initial production of 80 barrels. The only other oil well on this lease is Kelsey Bass 2, which is said to have filled a 3000-barrel storage tank in 42 days. It also is in the 450-foot level.

Victoria County Extension Well Finds Third Gas Sand

San Antonio, Texas.—The third gas sand has been encountered in T. B. Slick Estate's McFadden 2, which is located in the southwest corner of the company's block in the J. Varin Survey. The last sand was found at 4183-96 feet, which tested 500 pounds pressure in five minutes on a 3/8-inch choke.

The first sand was found at 3499-3508 feet, testing 500 pounds pressure in five minutes on a one-fourth inch choke. This is the same horizon from which McFadden 1 is producing, 3500 feet to the south. The second pay was at 3939 feet, which tested 500 pounds in four minutes on a one fourth-inch choke. It showed a little mud and oil.

The well is the most northeastern in the McFadden area of Victoria and Refugio Counties, which covers an area of about 10 miles northeast and southwest. It is showing about the same series of sands as found in The Texas Company's McFadden 3, an oil producer below 5000 feet, in the center of the McFadden district.

The outcome of the Slick well will throw a great light on the possibilities of deep oil production underlying the whole area.

Stop San Patricio Deep Tests Without Results

San Antonio, Texas.—Drilling operations ceased during the past week in two deep tests in San Patricio County, both tests being classed as failures in the lower horizons.

Atlantic Oil Producing Company temporarily abandoned Welder 3 in the Welder gas field at 6015 feet. This test, located 900 feet northeast of the Welder 2 gasser, was deepened from a gas

roducing horizon at 3661 feet, where it was good for 35,000,000 cubic feet daily. Several salt water sands were found. A block of cement was set at the gas level and the rest of the hole filled with heavy mud. It is likely, however, that operators will go back into the hole and complete the 3600-foot horizon or drill the well deeper.

On the Edroy block of John F. Camp and Stanolind Oil & Gas Company, N. R. Jackson 1 has been abandoned at 5507 feet. It showed very little all the way down. The location is in the southwest quarter of Section 50, G. H. Paul Survey.

Expect to Save Saxet Well Despite Crater

San Antonio, Texas. — The Saxet field, Nueces County, has another wild gasser to contend with. This time, it is Gulf Coast Oil Company's Perkins and LaGasse 1, which blew in wild on May 6 and at last reports was still far out of control.

It was headed for the deep sand, casing having been set on top of the producing horizon at 4556 feet. Total depth of the well is recorded at 4566 feet. While working with the well, it blew in from between smaller casing and the 13-inch pipe. The gas likely is coming from the 1500-1600-foot level.

The test already has cratered and has enveloped the derrick and surface casing, most of the machinery, etc., having been saved.

Considerable salt water is being blown from the hole and indications are that it possibly will choke itself in. The smaller string of casing seems to remain intact so it is likely that the well will not be lost, despite the cratering.

Gasser Completion Ends Aviator Field Inactivity

San Antonio, Texas.—After being inactive for some time, the old Aviator field of Webb County took the light during the past week with the completion of a 30,000,000 cubic foot gasser. It is Ross Amigos Oil Company's Garcia 1, Block 46, Survey 592, which has a total depth of 1843 feet.

Another producer for the week in Webb County was the Magnolia Petroleum Company's Benavides 7-A in the West Cole field. It is on Survey 660. The well is making 100 barrels daily from 2340 feet.

South Texas Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
BASTROP COUNTY—		
Schimmell & Batts, J. C. Williams 3, Doyle sur, Serpentine dry, dr into chalk	*	1776
BEXAR COUNTY—		
Chiquita Oil Co., Pollock 3, Rials sur No. 11, Cooksey pool, top san.		
CALDWELL COUNTY—		
C. J. Webster O&G Co., W. W. McCrory 1, McNeil sur, top Edwards 2278 ft, swabbed	75	2279
DUVAL COUNTY—		
John F. Camp, Weil 1, sec 570, top sand 2430 ft, tested sw at 2438 ft, deepened	*	2523
Capps & Smith, Duval Land Co. 2, sec 576, top sand 2295 ft, flow 60 bbls hour on ¼ choke	1440	2310
JIM HOGG COUNTY—		
H. D. Conley, R. Holbein 1, S7, B7, Animas sur.	*	2525
SAN PATRICIO COUNTY—		
Atlantic Oil Prod. Co., Welder 3, Welder pool, temp abn, may complete as a gasser from shallow sand	*	6015
John F. Camp & Stanolind O&G Co., N. R. Jackson 1, Sec. 50, G. H. Paul sur.	*	5507
STARR COUNTY—		
Jack Tarver, Inc., Kelsey Bass, sec 7, Por. 75-76-77	80	485
WEBB COUNTY—		
Mag. Pet. Co., Benavides 7-A, sur 660, W. Cole field	100	2430
Nordan & Morris, Gates 1, blk 5, sur 19	*	2006
Ross Amigos Oil Co., Garcia 1, blk 46, sur 592, Aviator pool, top sand 1840 ft	¶30	1843
ZAPATA COUNTY—		
O. W. Killam, Medina 6, Share 34, Fansler Partition, Escobas field	100	1460
The Major Co., P. Benavides 1, S 12, H&GN sur, test oil and sw	*	1504
Pet Royalty Co., Pablo Trevino 1, Charco Redondo grant	*	219
Trevino Oil Corp., Trevino 15-A, sur 412, Escobas field	35	1257

Wildcat Drilling Report

(Wells shut down not included)

ATASCOSA COUNTY — Mid-States O&G Co., Tom 1, s part of county, lcn. Glen Mathis, Martin 2, Navarro sur, dr 3250 ft.

BASTROP COUNTY — Campbell & Ton, Yeast 8, A Garcia sur, Yoast field, lcn 1. L. Champion, Owens 1, Cosner sur, 3 mi ne Elgin, to spud in. Marts and Beavens, R. L. Carter 1, Geo. Glasscock sur, 3 mi e Elgin, testing 2240 ft. Lonnie Evans and Dan Auld, D. K. Orgain 1, Addison Litton league, 2 mi n Yoast field, to spud in. Schimmel and Batts, Williams 4, James Stewart sur, Schimmel-Batts pool, spud in.

BEE COUNTY—Coquat & Hawn, L. Roberts 1, G. A. Kerr sur, Pettus-Cosden, dr 3970 ft. Gulf Coast Oil Co., Hicks & Hall 4, J. M. Urganga sur, blk 19, Normanna pool, dr 45 ft. Humble O&R Co., Laura Thompson 1, Garrett Roche sur, dr 5461 ft. Moody-Seagraves et al, B. Welder 1, H. Eyles sur, lcn. J. L. Mauldin et al, Kimball 1, Stephen Winship sur, Grayburg area, lcn. C. F. Nichols, J. P. Harris 1, Sec. 2, Durango Grant, move on. E. S. Price, Weiss 4, 3 mi se Pettus, lcn. Texas Gulf Prod. Co., Webb Hearn 1, 1500 ft n Wood 1, P&T Irrigation Co. sur, dr 2410 ft. The Texas Co. L. Gremmel 4, Jno. Pace sur, sw Pettus, sand 3871-77 ft, set cas, woc; Gremmel 5, 400 ft n No. 1, lcn; Scott 1, e Normanna, clear lcn. United Prod. Co., George Ray 42, Geo. A. Kerr sur, Pettus, spud in; George Ray 43, Thos. Hanson sur, spud in.

BEXAR COUNTY — American Gas Co., Kennon 5, M. F. Rodriguez sur No. 4, Gas Ridge, (old test), dr 2150 ft. Alamo Nat'l Cas Co., G. J. Gembler 4, A. Menchaca sur, Eckert pool, spud in; Coreth 1, Menchaca sur, Eckert pool, spud in. E. M. Carl, F. E. Gembler 1, I. Montes sur, dr 300 ft. Chiquita Oil Co., R. Pollock 4, J. W. Rialls sur, Cooksey area, ru. Davis, Noble & Bender, S. A. Farms blk 81, dr 750 ft. Eckert and Son, Louis Brehm 1, Eckert pool, to re-dr 40 ft. L. W. Stieren 1, Annie Terrell 1, A. Steele sur, Cooksey area, testing 1604 ft.

BROOKS COUNTY—Ed East et al, Rudolpho Garza 1, Alta Mesa area, dr below 200 ft. Allen and Morris, Holbein-Wormser 1, Palo Blanco de Maguellos Grant, Alta Mesa, sand 1805-19 ft, blew in while testing, dr stem dropped into hole, fsh. E. G. Sterns, B. Myrick, blk 3, lot 2, Falfurrias sur, lcn.

CALDWELL COUNTY—Empire O&G Co., Ursery 1, S. Seal sur, to make lcn. M. O. Rayor et al, Kruez, Samuel Shaupe sur, 6 mi nw Pierce well, dr 1750 ft. Geo. Sullivan (Shell) Plinsell 1, M. W. Dennis sur, ru. Taylor Oil Co., McBride 1, 12 mi ne Luling, dr 1500 ft. C. J. Webster O&G Co., Robertson 1, John Neil sur, 7½ mi se Lockhart, lcn.

DE WITT COUNTY—Pat Armstrong, E. T. Clark 1, Jose Santos sur, dk. The Texas Co., McCrabb 1, at Thomaston, lcn.

DUVAL COUNTY — Cole Pet. Co., Benavides 75, blk 8, sur 9, Mariano Arispe Grant, Cole Bruni, dr 4935 ft. Duval Oil Corp., Bishop 9, sur 135, Govt. Wells, top sand 2352 ft, set cas, dr in. French Oil Corp., Lopez 1, sur 731, 2 mi sw Foster Rieter wells, dr 1502 ft. James Hicks, W. R. Peters 1, sec 327, dr 1200 ft. Humble O&R Co., Paul White 4, sur 58, Govt. Wells, dr 700 ft. F. P. Hynes Fee 1, sec 196, blk 26, sand 2316-21 ft, test 20 trebbles sw 11 min., lot of gas, rainbows of oil, dr deeper. Smith et al, Duval Co. Ranch 1, sec 574, lcn. J. S. Suttle, L. Bennett 1, sec 44, J. Poitevant sur, ½ mi e Seacord & Putnam well, dr 2245 ft. R. A. Thompson, A. Parr 1, A. Garcia sur, dr 4310 ft. Trinity Drillers, Inc., Hagist 1, sur 123, dr 1600 ft.

GOLIAD COUNTY—Benedum & Trees and Plymouth Oil Co., Parks 2, se cor BS&F sur No. 8, dr 4530 ft. Humble O&R Co., M. Fromme 1, G. W. Kersey sur, 3 mi n Goliad, dr 900 ft. David E. Dunlap, A. T. Fromme 1, P. Dexter sur, dr 2610 ft. L. Neal et al, J. M. Pettus 1, Pedro Trevino sur, to re-dr 4565 ft. Slick-Seeligson, Allen 2, Obid Marshall sur, Slick pool, sand 4198-4213 ft, made gasser, 1100 lbs. pressure on 9/16 inch choke, pull liner, deepen.

GUADALUPE COUNTY—J. W. Clark et al, Clay 1, Francisco Carvajal sur No. 47, lcn. Humble O&R Co., Sue E. Denman 5-C, Wm. Arrington sur, Darst Creek, dr 1200 ft. Sal Mar Oil Corp., A. F. Pfullman 1, L. Ballinger sur, between Seguin and Darst Creek, top Austin chalk 1985 ft, dr 2200 ft. Taylor Oil Co., G. W. Pearson 1, 7 mi s Kingsbury, dr 600 ft.

HIDALGO COUNTY—B. H. Adams, J. D. Brock, Por. 79, blk 15, dr 4360 ft.

JIM HOGG COUNTY—D. C. DeWitt, T. Gomez 1, sec 12, dr 1415 ft. E. Hough, N. Hinnant 1, Sec. 20, Fansler sur, blk 8, lcn. R. L. Huckett et al, F. C. Guerra 1, sec 86, blk. 6, dk.

JIM WELLS COUNTY — F. A. Lain, V. Porter 1, Tract 25, near Sandria, sd 500 ft. Mag. Pet. Co., Seeligson 1, Lot 5, blk 11, A. Ramirez sur, 15 mi s Ben Bolt, dr 5910 ft. S. J. Sloane, W. Wade 1, C. Blanca sur, blk 6, dk.

KARNES COUNTY—Pickett et al, Meyers 1, 2 mi sw Runge, set surface cas and sd. C. F. Nichols, Newberry 1, sand 3117-47 ft, test 30 fourbles t.w., sd.

KERR COUNTY — Eastland Oil Co., Jeff Love 3, sec 1594, lcn.

McMULLEN COUNTY—Jacob, Buzzini & Pucket, Inc., J. Jacob 3-A, sec 8, W. H. Jacob sur No. 8, spud in.

MEDINA COUNTY — R. Robertson Drlg. Co., J. J. Little 1, BS&S sur No. 2, dr 350 ft. Arnot & Fincke, New Cannan 1, blk 22, F. Mumme sur, lcn.

NUECES COUNTY — Gulf Coast Oil Co., Perkins and LaGasse 1, H. B. Shepherd sur,

Saxet field, td 4556 ft, 6⅝ cas 4546 ft, blew in wild May 6, cratered ,lost dk and surface casing, still wild May 11. V. B. Hillegeist, McGregor 1, sur 311, Saxet, lcn. James K. Kepley sur, C. D. Sevier 1, Por. 582-83-311, Saxet field, redr 429 ft. Rutherford Drlg. Co., J. Hunter 1, Saxet field, dr 3240 ft.

REFUGIO—Humble O&R Co., M. V. O'conner 1, J. Keating sur, dr 4412 ft; O'Conner 2, J. Keating sur, dr 4190 ft. Edwin M. Jones, Josephine Mitchell 1-B, Refugio Town Lots, dr 8813 ft. Mid-States O&G Co., Dammann 1, blk 16, Bonnie View Ranch, to deepen from 4675 ft. United Prod. Co., Fox 3, Hews & Brown sur, dr 6704 ft; Fox 4, Hews and Brown sur, dr 6285 ft; Fox 5, Hews and Brown sur, dr 6244 ft.

STARR COUNTY—Allison & Roberts, Kelsey Bass 1, Sec. 6, spud in. Coastal O&G Co., Kelsey Bass 1, blk 52, dr below 490 ft; Olivarez 1, share 35, Por. 80, dk complete. Kirk Cornell, Kelsey Bass 1, Sec. 8, no rept. H. H. Davis, K. Bass 6, Sec. 6, dr 150 ft. Day & Co., Kelsey Bass 1, Sec. 6, spud in. Hunter Eckles, Kelsey Bass 1, Sec. 8, dr below 300 ft. H. F. Griffith et al, Kelsey Bass 1, Sec. 11, dr 355 ft. Hooks & Weaver, Kelsey Bass 6, Sec. 6, set 6 inch cas top sand 474 ft, woc. P. A. Hoffman, Goodrich 1, blk 6, tract 5, Por. 81, dk. R. E. Johnston, Seabury 1, tract 32, Por. 80, dk completed. King Pin Oil Co., T. C. Lewis et al 1, center tract 22, Por. 80, Rio Grande City, dk. Edwin M. Jones, Chatfield et al 1, blk 3, tract 21, Por. 80, dk completed. Gulf Coast Oil Co., Perez 1, share 16-C, Por. 80, lcn. O. W. Killam, Wood et al 1, Por. 84, dr 2010 ft. Frank LaBorde, Marroquin 1, tract 20, Por. 75, dr 348 ft. Los Olmos O&G Co., Kelsey Bass 13, sec 7, ru. Mitchell & Barnsley, Kelsey Bass 1, section 8, sd 293 ft for repairs. T. C. Patten, Kelsey Bass 1, sec 8, sd 1050 ft to rep machy. R. H. Pursley, Seabury 2, Share 5, Por. 75, dr 650 ft; Hinojosa 1, center blk 96, Rio Grande City, San Juan Plaza, lcn. Sinclair & Rutherford, J. T. Canales 1, Share 69, Por. 79, Kelsey Bass 1, sec 6, spud in. Rio O&G Co., Kelsey Bass 2, sec 6, set 5 3/16 inch cas 559 ft, td 570 ft. Stryalls Oil Corp., Maria R. G. de Salinas 1, share 38-c, Por. 80, sd 1968 ft to rep machy. Sioux Oil Corp., Goodrich 2, blk 1, tract 5, Por. 81, lcn. Jack Tarver, V. C. de Guerra 1, share 17, Por. 79, dr 1485 ft. E. L. Williams, G. Madrigal 1, share 5, Por. 72, dr 185 ft.

TRAVIS COUNTY—Bass & Fuchs, R. A. Chadwick 1, A. C. Caldwell sur, dk.

VICTORIA COUNTY — Houston Oil Co., A. M. McFadden 1-A, IR No. 20 sur, dr 2934 ft. Slick-Seeligson, Inc., McFadden 2, J. Varin sur, sand 4183-96 ft, show 500 bbls on ¼ choke in 5 min, dr 4250 ft. The Texas Co., A. M. McFadden 4, trying to recover drill stem stuck 2840 ft. Victoria Oil Co., Keeran 1, dr 4825 ft.

WEBB COUNTY—French Oil Corp., Benavides 7, sur 569, w Cole field, set cas 2330 ft, dr in. Nordan & Morris, Gates 2, lcn. Phillip Rosenberg, D. Green 2, sec 233, 1903 ft. Tompkins et al, Ortiz 1, sur 1808, dk.

WILLIAMSON COUNTY—H. A. McLean, R. C. Miller 1-A, Manlove & Robnison sur, dr 1100 ft. McNeil & Matthews, Bachmayer 1, 5 mi w and s Chapman field, dk. G. P. Peterman, K. Guentzel 1, H. Cook sur, dk. G. L. Rowsey et al, Streit 1, J. West sur, ru.

ZAPATA COUNTY—Allied O&G Co., Gutierrez 23, share 5, Escobas field, dk. Geo. Ball, Gutierrez 1, dr below 2100 ft. Ballard & Mercer, Flores 1, blk 27, Por. 37, sand 2441-46 ft, set cas, woc. E. K. Bateman, M. Garza Estate 1, blk 41, ru. E. R. Black, M. Garza Estate 1, blk 11, ru. J. M. Blair et al, Montemayer 1, blk 1, sur 63, dr 1390 ft. Joe Cullinan, Gutierrez 1, Charco de la India Grant, dr 250 ft. Hunt & Polk, Rominez 1, share A, Villa Grant, lcn. M. V. Lee, Trevino 1, sec 66, blk 7, td 1450 ft, cas set, woc. McGinley Corp., J. Bustamante 1, sec 35, Escobas, dr 1350 ft. T. J. Murray, Haynes 1, Cometas Grant, ru. Windsor Oil Co., Martinez, blk 14, Charco Redondo Grant, dk. The Texas Co., Jennings 8, C. Blanco Grant, ru.

ZAVALLA COUNTY—Carpenter & Jenkins, Wolf 1, sec 8, dr 760 ft.

Results Doubtful From Meeting of World-Wide Oil Leaders

(*Continued from page 10*)

petition between American companies bereft of supplies from Caspian sources and Royal Dutch-Shell and Anglo-Persian units. It is said also that the great Anglo-Dutch and British groups have relinquished some of their postwar dreams in which was contemplated the acquisition of larger shares of European and Asiatic markets than they have been able to command since the alliance between Soviet producers and American marketers. If so, Anglo-Dutch interests may be found to lie in parallel with American interests during the coming historical period. The suggestion has been made that Standard Oil Company of (New Jersey), Royal Dutch-Shell, and Anglo-Persian would be well advised to offer to supply Socony-Vacuum with raw materials and refined products in order to ensure that company's co-operation in dealing with the Russians.

It is highly probable that the Russians may be offered an opportunity to play ball, and to sell less oil for more money; and, if they refuse, it is within the limits of the situation that their career as the bad boys of the oil industry will be brought to an end.

Soviet industrial progress made as a result of the Five Year Plan is beginning to demand a larger and larger share of Russian oil production, which leaves less of oil for export and makes it imperative that such oil as is sold abroad should command the highest possible prices. Great Britain was a fertile field for the acquisition of gold exchange and foreign "valuta" for financing the Five Year Plan and "the great social experiment"; but the abandonment of the gold standard on the part of Great Britain must have dealt a severe blow to the Soviets through the depreciation by approximately 25 per cent of the exchange value of their "takings" in the United Kingdom and related markets. The collapse of official and semi-official British and German credit structures, followed by the depression in the United States, has brought about a drastic curtailment in credits formerly granted to cover purchases for Soviet account in Western Europe and the United States, with the result that such purchases have been reduced in large measure to a strictly cash basis, with cash available to the U. S. S. R. only in exchange for oil.

If the Soviet Naphtha Syndicate should lose its outlets through Socony-Vacuum channels, it would be faced with the necessity of withdrawing, temporarily and in large measure, from export trade, as its several marketing subsidiaries have not fully succeeded in their efforts to establish alternative facilities for profitable distribution.

It is not unlikely that "Comrade" Riabovol, on entering the council chamber, may find himself confronted by Mr. Arnott, flanked by Mr. Teague, Mr. Kessler, Mr. Fraser, and Mr. Watson, who will offer a cartel in one hand and a price war in the other.

In other words, the capitalist boys seem to have the socialist boys by the well-known ying-yang.

Bee County Semi-Wildcats Have Varying Results

San Antonio, Texas.—Bee County reported both failures and producers during the week in semi-wildcat territory.

In the southwestern extension of the Pettus field, The Texas Company topped the sand at 3881 feet and set casing in Gremmel 4, 450 feet southwest of Gremmel 3 and the same distance southwest of production. The well cored six feet in the pay, showing heavy saturation. It is in the John Pace Survey. Farther north in the Cosden pool, bad news came from Coquat and Hawn's Roberts 1, Kerr Survey, which was at last reports drilling at 4050 feet and showing nothing.

In the discovery pool of the Pettus field, United Production Company is drilling two wells. Ray 42 is making hole at 1800 feet, while the Ray 43 is preparing to resume drilling after setting 283 feet of surface casing.

Gulf Coast Oil Company's first test in the Normanna pool, Hicks & Hall 4, Block 19, J. M. Uranga Survey, was abandoned at 4595 feet. It showed a little oil and mud at 3597-3612 feet and salt water and gas from 4288 to 4295 feet.

In the southern portion of the county, Texas Gulf Producing Company is making rapid progress in Hearn 1, P. & T. Irrigation Company Survey. The well is now below 2680 feet, headed for the formation found at 5077 in the Humble & Sun's Wood 1, which showed for production. Humble Oil & Refining Company's Laura Thompson 1, Garrett Roche Survey, also in southern portion of Bee County, is drilling at 5560 feet.

GULF COASTAL FIELDS

Barbers Hill Has Big Lead in Gulf Coast Drilling. Two Ends of Beach Area Due for Show This Month.

WM. V. GROSS, *Staff Representative, Houston, Texas*

Cheek Dome Test Reports Another Faint Oil Showing

Houston.—Jack Schultz's O. M. Todd 1, Cheek dome prospect well in Jefferson County, was reported to have encountered a very faint showing of oil and gas this week in a shale and lime cored at 5200-06 feet and to have continued drilling to below 5250 feet. This wildcat, which has been variously called the property of Fort Worth Development Company and of M. P. Brown of Fort Worth, has previously reported light showings of oil and gas between 3375 and 3510 feet, and at 4162-82 feet. It is located nine miles southwest of Spindletop.

Pittman and Elam's Broussard 1, another Jefferson County wildcat, two miles west of Sabine, was abandoned this week at 2674 feet. It is located in the M. Broussard 206-acre tract, McGaffy Survey. Removal of Broussard 1 from Jefferson County's list of actively drilling wildcats leaves only the Todd well for the county.

Austin County Wildcat Reports Showing of Gas

Houston.—R. R. Mitchell and C. H. Taylor, drilling Scholeckte 1 in Austin County, a wildcat located near Kenny, are drilling ahead in shale and lime below 3520 feet after having encountered a reported gas show from 3361 to 3375 feet. This test recently was taken over by Mitchell and Taylor from Joe L. Mulvey et al. Previously, it had been the project of Parmesan & Cafferkey, and J. P. James et al, in the order named.

Production at Manvel Difficult to Sustain

Houston.—The Texas Company seems to be having a difficult time making a consistent producer out of Belcher 2 at Manvel, Brazoria County, inasmuch as that well is being prepared for its third completion in 1932.

Originally Belcher 2, the second oil well completed in the field discovered in 1931 by The Texas Company, was completed at 5602 feet for about 100 barrels of oil initially, with a pressure of 1750 pounds. This was early in March. During April the well was deepened to 5685 feet for a work-over initial of 55 barrels per hour, which had dropped to 430 barrels the second day. Productive life of the worked-over Belcher 2 was short, with the result that it is now drilling below 5747 feet in a sand and shale in hopes of finding commercially profitable production.

There seems no likelihood of additional drilling at Manvel during the first half of the year as the only rig available there is being used on Belcher 2 and The Texas Company has not announced a location to follow Belcher 2. Hence it may be reasonable to expect that the field's daily average production of 500 barrels will not show a material increase at least until successful completion of Belcher 2.

Expect East and South Beach Definition in May

Houston.—Beach area of Montgomery County, discovered December 13, 1931, by Strake Oil Corporation's South Texas Development Company 1, will be afforded further definition to the east and south by the end of May, with the southern definition possibly developing first.

Strake Oil Corporation's South Texas Development 2, about 2200 feet south of No. 1, was drilling below 4685 feet May 13 after having tested gas from 4285-4320 feet. It would be possible to complete this well within a week as depth of the discovery well was 4991 feet. Another test, results of which were not announced, was made around 4535 feet.

Should South Texas Development Company 2 be completed as a producer, it would result in announcing additional locations to the south and southeast by those holding small tracts in that general direction. A number of men who were interested in leases before the discovery well was spudded believe that the best of the play will lie in a southeasterly direction from the discovery well.

Following Strake Oil Corporation's No. 2, perhaps the next well due for completion is Heep Oil Corporation's Freeman 1, more than a mile due east of the discovery well and a short distance south and east of Heep Oil Corporation's R. L. Cartwright 1, second producing well to be completed in the area. Freeman 1 is drilling below 3000 feet. This latter test is 450 feet from the south line and midway between the east and west lines of the J. R. Freeman 36-acre tract in the John Davis Survey.

Heep Oil Corporation's M. E. Roberts 1, located more than a mile north of the discovery well, or 431 feet from the south and 439 feet from the east line of the M. E. Roberts 384.7-acre tract in the William H. Harrison Survey, was scheduled to spud May 14.

The two locations announced for the area last week by Alpha Oil Company and Smith and McDaniels, will not be ready to spud for another week, or more. This latter proposed test, Smith & McDaniels' Sealey 1, is located as follows: approximately 1403 varas from the south line and 1250 varas from the east line of the J. C. Pitt Survey, thence 350 feet north and 250 feet east.

Rabb Ridge Expected to Show Production Increase

Houston.—Production at Rabb Ridge field, Fort Bend County, may be expected to show an increase above the 8700-barrel figure maintained for a few weeks due to contemplated completion early next week of one producer and completion this week of two producers which had a combined initial of 1105 barrels that was not reflected in the daily average.

May 13 Humble Oil & Refining Company and Gulf Production Company, co-developers of most of the area at Rabb Ridge considered likely for production, cored an oil sand at 5160 feet in Lockwood B-2, located 816 feet west of Lockwood B-1. Completion of this well is anticipated before May 20.

During the week just closed, these operators worked over J. H. P. Davis 1 at 5383 feet by plugging back from 5414 feet to obtain 305 barrels flush through three eighths-inch choke. Screen setting was 234 feet. The original initial production from J. H. P. Davis 1 was 984 barrels through a quarter-inch choke. It was obtained before Cullen & West sold their interest in the area to Humble Oil & Refining Company.

The second completion of the week at Rabb Ridge was Humble and Gulf's Booth 2 in the John Rabb Survey, an offset to Myers 2 and located 475 feet north of the south line of the Booth lease. It was brought in from slightly below 5002 feet for an initial estimated at 800 barrels through three eighths-

inch choke after seven-inch casing had been set at 4972 feet.

Humble and Gulf's H. P. Lockwood 3, a north offset to George 3, stuck drill stem at 4573 feet and is engaged in cutting same. Myers 3, probably the next test to be drilled, is waiting on a rig. It is located 2990 feet from the east and 399 feet from the south line of the John Rabb Survey and in the A. E. Myers 455-acre tract. Four additional locations announced in May by Humble and Gulf include two more wells on the Lockwood-Sharp acreage, one on the J. H. P. Davis land, and another announced May 13 for the F. I. Booth property. This latter test will be drilled soon, as it is already rigging up. It is a north offset to T. R. Booth 1, but in the F. I. Booth 1100-acre tract, being 445 feet north of the south line.

The Texas Company should spud Wolters 1 by May 16 as that test is rigged up. It is located 2750 feet north of Gulf and Humble's T. R. Booth 1 and will extend the field more than a half mile to the north in the event it is completed as a producer. Wolters 1 is located 742 feet east of the west line and 100 feet north of the south line of the Wolters 100-acre tract in the Samuel Kennedy Survey.

Burleson County Activity Picks Up in Early Summer

Houston.—Burleson County, one that does not often command attention in field and wildcat deevlopment columns, is livening up with the advent of summer, attested by three active drilling tests, one location, and one derrick, exclusive of those wildcat tests which have been shut down for some time.

In the region about six miles west of Lyons, Ball Knob Oil Company has staked location for Polansky 1 in the M. B. Lawrence Survey. The location is 359 feet from the southeast line and 469 feet from the northeast line of the 158-acre Polansky tract. E. M. Bracey et al are building a derrick for a well to be drilled in the old Somerville area on a location in the J. Lastly Survey, 880 feet from the east corner of the P. Taylor 110-acre tract, but in the E. M. Bracey three-acre tract.

Sanson Oil & Gas Company, drilling the wildcat Dockworth and Gilly 1 in the southeast corner of the county, skidded the derrick 10 feet south last week following collapsing of surface casing and have resumed operations setting a second string of surface casing in the new hole. This test is located 100 feet both ways out of the northwest corner of Block 8, P. Singleton Survey.

J. E. Stubblefield's Mitchell 1, another test near Lyons, was still attempting to set a string of surface casing at latest reports. The test is 600 feet deep. M.O.T. Oil Company's Rogers 1, located 150 feet south and 300 feet east of the southwest corner of the B. J. DuBose Survey, but in the T. B. Reese Survey, has temporarily halted making hole while repairs are being made to the rig.

Barbers Hill Will Lead Texas Gulf Coast Drilling

Houston.—Barbers Hill will continue for several months at least to hold its place as the most active area of the Texas Gulf Coast, having announced recently five new locations and rigs having six wells drilling below 4000 feet and due for early completion, and having two wells in oil sand on May 13.

McAlbert Oil Company's Higgins B-2, a southeast flank test, probably is the next well due for completion in the field, having set 7⅝-inch casing at 4055 feet, the top of an oil sand bottomed at 4077 feet. The Texas Company's J. F. Wilburn 6, workover, has cored a sand and shale showing oil at 5080-91 feet which probably will be given a test.

Mills Bennett completed Means 3 on the east flank this week for 1618 barrels of 25 gravity, corrected, pipe line oil. The production is flowing through an half-inch choke which carries a pressure of 385 pounds. It was drilled to 4445 feet, topped the salt at 1435 feet and went out of it at 2551 feet. Temperature of the oil was 84 degrees, safely cool.

Latest available production figures credit Barbers Hill with a daily average yield of 19,200 barrels.

Edna Prospect Prepares To Test 5000-Foot Sand

Houston. — Chicago - Gulf Corporation's Drushell 10, located in the Edna Gas district of Jackson County, a region considered wildcat, drilled into a sand at 5000 feet May 13 and was preparing to test.

Drushell 10 showed 300 pounds of dry gas on a quarter-inch choke early in May when subjected to a two-minute drill stem test.

Drushell 4 is standing at 5149 feet after having blown out and burned for six hours. Repair work on the rig has not been completed.

Houston.—Heaving shale claimed another well this week in the Texas Gulf Coast when Layne-Texas Company's Wisdom 9 at Damon Mound, Brazoria County, was abandoned in that formation at 4188 feet.

Shell Delays Completion Of Iowa Extension Attempt

Houston.—The outcome of Shell Petroleum Corporation's attempt to extend production of the Iowa district of Louisiana 450 feet east will not be known for another week, according to advice received in Houston May 13. O. A. Fontenot 1, Jefferson Davis Parish, set seven-inch casing on top of an oil sand at 6907 feet. Twelve feet of oil sand has been drilled, and an additional core will be taken when the plug is drilled, thus assuring the fact that Fontenot 1 will take in more oil sand than Heyd 2, which recently extended Iowa field 450 feet south from Magnolia Petroleum Company's Waite 1.

Alexander's Wildcat to Plug Back to Upper Sand

Houston.—W. R. Alexander et al's Hermann Hale 1, wildcat well in the R. V. Hanks Survey of Harris County which attracted considerable attention a month ago because of geological revelations, will plug back to 3100 feet May 15 in order to sidetrack and test a sand passed up in between 3306 and 3326 feet. In this 20 feet of formation, all of which showed oil and gas, the best showing was a three-foot stratum logged at 3315-18 feet. Herman Hale 1 had been carried to 5030 feet when the decision to plug back was made. The well is about nine miles northeast of Humble oil field.

Markham Likely to Have New Producer Next Week

Houston.—Chances for a new producer in Markham field, Matagorda County, appear likely for next week following the topping of an oil sand this week in Hamill & Powers' Myers 2 which penetrated 10 feet of sand to 3271 feet and then set 6⅝-inch casing at 3261.

C. B. Hamill's Elkins 2, the only other active well at Markham, was reported May 13 coring below 4032 feet.

Location for The Texas Company's Fee 1, announced last month for the northeast flank of Markham dome, has been temporarily abandoned.

Matagorda Deep Test Will Make Tenth Production Try

Houston.—As soon as another packer can be obtained, the tenth attempt to get a production test at 7829 feet in United North and South Development Company's Stoddard 1, wildcat well in

the Buckeye Townsite district of Matagorda County, will be made.

This week the ninth attempt failed when a thin packer at the bottom of a full string of 4½-inch liner collapsed when run in the hole. Stoddard 1 was running 48 feet of screen below the liner when the packer collapsed.

Prairie Minority Group Form Protective Committee

Chicago.—A protective committee of minority stockholders, who opposed the merger of the Sinclair and Prairie companies has been formed. It consists of holders of shares of both Prairie Oil & Gas Company and Prairie Pipe Line Company stock. William Roy Carney and Quintin Johnstone of Chicago and Kriegh G. Carney of Des Moines are members of the committee.

Some stockholders opposed the merger at the time it was voted. They gave notice then that further action would be taken to prevent it. Indications are that suits will be filed.

Pending settlement of the controversy the listings committee of the New York Stock Exchange has ruled that trading may continue in both Prairie stocks.

Rules on Gas Conservation For Texas Panhandle

Austin.—Backed by the decision of the Henderson case the Texas Railroad Commission has issued an order, which is calculated to halt the waste of gas in the Panhandle. The order applies to both gas wells and wells making oil and gas from one sand in Carson, Gray, Hutchinson, Moore, Potter and Wheeler Counties. It is the opinion of R. D. Parker, supervisor, that 150,000,000 cubic feet of gas will be saved daily.

The rules have been issued under article 6008 of the civil statutes of Texas as amended by the first called session of the Forty-second legislature. They provide:

That wells producing gas only must remain closed until such time as the gas can be utilized for light, fuel or power. When produced they shall be permitted to flow no more than 25 per cent of potential.

That gas escaping from wells making both oil and gas from one sand shall be metered and reported to the commission each month. This applies to gas from natural gasoline plants.

That no more than 10,000 cubic feet of gas per barrel of oil shall be used in gas lift production.

That permission must be had from a deputy supervisor before additional wells may be connected to supply gas for a natural gasoline plant.

Texas Gulf Coast Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
BARBERS HILL FIELD—		
Mills Bennett, Means 3, east flank	1618	4445
HIGH ISLAND FIELD—		
Yount-Lee Oil Co., Cade 27	1200	5349
HUMBLE FIELD—		
Rio Bravo Oil Co., Fee 7	96	4178
PIERCE JUNCTION FIELD—		
Moody-Pure Oil Co., Hermann Est. 1	372	4561
RABB RIDGE FIELD—		
Humble & Gulf, Davis 1, (wo)	305	5383

Wildcat Drilling Report

(Wells shut down not included)

AUSTIN COUNTY—Humble O&R Co., McCasland 2, Raccoon Bend, lcn and dk 600 ft se along sw line from bend in line and 200 ft at rt angles in ne direction. Sloan & Gans, Nannie T. Jackson 1, Brookshire prospect, dr shale, 3250 ft. R. R. Mitchell & C. H. Taylor, Scholeckte 1, near Kenny, dr shale and lime 3525 ft.

BRAZORIA COUNTY—Layne Texas Co., Wisdom 9, Damon Mound, dr shale, 4110 ft.

BURLESON COUNTY—Ball Knob Oil Co., Polansky 1, lcn 6 mi w Lyons, or 359 ft fr se line and 469 ft fr ne line of 158-ac tr in M. B. Lawrence Sur. Sanson Oil & Gas Co., Duckworth & Gilly 1, P. Singleton Sur, surf cas collapsed, skidded r 10 ft s and cmtd 28 ft surf cas. M. O. T. Oil Co., Rogers 1, T. B. Reese Sur, rep r at 2455 ft.

CHAMBERS COUNTY—Pure Oil Co., Mayes 15, Lost Lake, coring below 1700 ft. Gulf Prod. Co., Wilburn 8, Barbers Hill, dr hd sn 4360 ft. McAlbert Oil Co., Higgins B-2, Barbers Hill, WOC at 4077 ft, td, oil sn 4055-4077 ft. Mills Bennett, Barber A-4, Barbers Hill, dk fndtn; Kirby 3, Barbers Hill, lcn 645 ft e of w li and 40 ft s of n li, on e flank. Rio Bravo Oil Co., A. N. Fisher 3, Barbers Hill, stuck dr st, td in cavity, 4166 ft. Texas Gulf Prod. Co., Barber A-7, Barbers Hill, dr salt 5487 ft; Ilfrey 3, Barbers Hill, td in cap rk 1204, cmtd 16-in cas at 1184, drlg plg; Kirby B-10, Barbers Hill, ru. Sinclair-Prairie Oil Co., Wilburn 12, Barbers Hill, dr li rk, 3690 ft. Sun Oil Co., Wilburn 14, Barbers Hill, dr rk 2686 ft; Higgins 3, Barbers Hills, lcn 50 ft w of e li and 400 ft n of s li of strip and direct offset to McAlbert's Higgins B-2 on se flank. The Texas Co., Wilburn 6 (wo), td 5091 in sn and shale shwg oil in sdtrkd hole, old hole sdtrkd at 5045 ft.

FORT BEND COUNTY—Jas. T. O'Hara, T. A. Brown 1, Pilant Lake, dr blue shale, 4220 ft. Humble & Gulf, Lockwood B-2, Rabb Ridge, dr shale, 4600 ft; H. P. Lockwood 3, td 4573 ft, working over rig; Booth 2, cored sn shwg oil, td 5002; A. E. Myers 3, Rabb Ridge, WOR; Lockwood & Sharp B-3, lcn 1000 ft w e line and 300 ft s of n li of Lockwood 938 ac tr; Lockwood & Sharp A-5, lcn 1000 ft w and 300 ft n of sec of A 1s, which is tr No. 2; T. R. Booth Est. 1, Rabb Ridge, lcn 445 ft n of s li and direct n offset of T. R. Booth 1 in the Booth 1100-ac tr; J. H. P. Davis 2, 2485 ft e and 150 ft s of nwc of Davis 1000-ac tr in Robt. Peebles Sur. The Texas Co., Wolters 1, Rabb Ridge, ru. Coronado Oil Co., Blakeley 3, Blue Ridge, dr hd shale and li, 4240 ft; Blakeley 4, lcn in s central part of Lot 8, E. Drew Sur.

GALVESTON COUNTY—Yount Lee Oil Co., Cade 28, High Island, 10-in cas set at 1308 ft, dr in sn and bldrs at 1620 ft; Cade 29, lcn 300 ft e of No. 27 and 240 ft n No. 16; Broussary & Orme 1, High Island, dr w sn 6120 ft; Broussard & Orme 2, lcn 300 ft se No 1; Nellie League 2, High Island, 230 ft n and 300 ft e No. 1; Smith 11, High Island, 130 ft e of the old Gulf 3 and 300 ft n of the old Gulf's Smith 5.

HARDIN COUNTY—Votaw Oil Co., Southwestern Lbr. Co. 1, mov in r in lcn 150 varas w of c of e li of Mary K. Sherman Sur. W. R. Alexander et al, Kirby Lbr. Co. 1, 300 vs n and 100 vs w fr swc of sec 209, H&TCRR Sur, but in Mary K. Sherman Sur, dk.

HARRIS COUNTY—W. R. Alexander et al, Hermann Hale 1, R. V. Hanks Sur, dr 4990 ft in sn. Framar Oil & Gas Co., Minnetex 2, Mykawa, dr gbo 2990 ft; Woodburn 2, Genoa, dr gbo 300 ft. Rio Bravo Oil Co., Settegast A-24, Pierce Junction, td 4409 ft, cutting scr to dpn; Settegast A-25, dk. A. & P. Production Co., K. F. Whitehead 7, Pc Jtc, dr shale and lime 3047 ft.

JASPER COUNTY—Hext Dr. Co., Flournoy 1, 4 mi se Jasper, sd in soft sn and sandy shale, 4005 ft. Rio Neches Oil Co., Boykin 1-B, Rockland dist, ru on lcn 150 ft w and 750 ft n of sec 160-ac tr in BBB&C Sur.

JEFFERSON COUNTY—Jack Schultz, O. M. Todd 1, Cheek dome prospect, dr shale and lime 5250 ft, core at 5200-06 ft showed trace of oil.

LIBERTY COUNTY—Cranfill-Reynolds, Esperson 20, Esperson dome, dr hd shale, 4370 ft. D. & L. Prod. Co. & Bashara, Pivoto 1, Hull, cmtd 9⅝-in cas at 4058 ft, dr hd sn and shale, 4325 ft. Abshier et al, mov in r on lcn 850 ft fr e line and 300 ft fr s li of 50 ac tr in E. Tanner Sur.

MONTGOMERY COUNTY—Heep Oil Corp., Mrs. M. E. Roberts 1, Beech area, ru to spud by May 15, 1932; Freeman 1, Beech area, dr 3050 ft. Strake Oil Corp., So. Tex. Dev. Co. 2, Beech area, cor in shale below 4500 ft, test some gas and mud around 4300 ft. Gohlson & Rycade, H. P. Drough 1, J. J. Foster Sur, ru. Alpha Oil Co., So. Tex. Dev. Co. 1, Beech area, lcn. Smith & McDaniels, Sealey 1, Beech area, lcn.

ORANGE COUNTY—Ala-Tex. Oil Co., Reed 1, 2½ mi se Orange, r at 4655 ft. The Texas Co., W. H. Starck 3, Port Neches, lcn 350 ft e and 100 ft n of swc M. Beauchamp Sur.

WALKER COUNTY—Geo. F. Kerr, Smithers Bros. 1, S. Manning Sur, sd for fuel at 1840 ft.

Louisiana Gulf Coast Field Developments

Completion

Company, Well and Location	Initial Production Bbls.	Depth
EVANGELINE FIELD—		
Haywood & Haywood, Jennings Fee Simple 2	4	1825

Wildcat Drilling Report

(Wells shut down not included)

ASCENCION PARISH—McElroy Oil Co., Lacy 2, Sec. 20-10s-4e, sw offset to Sorrento dome, fsh for dr st at 4560 ft.

CALCASIEU PARISH—Union Sulphur Co., Martha Moss 3, Lockport, set 76 ft 18-inch cas, dr sn 900 ft; Fee 769, Sulphur, r in w sn at 5390 ft; Fee 771, Sulphur, dr sh and li, 3100 ft. Marrs McLean, Gray 13, Vinton, dr gbo 2100 ft. Moore & Emerson, Hunter B-1, Edgerly, set 6⅝ inch cas at 4000 ft, td in sn 4050 ft.

CAMERON PARISH—Brownie-Babette Oil Co., R. A. Moore 1, Black Bayou,dr w sn 5150 ft. Pure Oil Co., Yount-Lee 11, Sweet Lake, lcn. Calcasieu Oil Co., Unsurveyed Island 2, E. Hackberry, dr rk 2345 ft. Union Sulphur Co., Pure Oil 1, E. Hackberry, dr sn and sh 6915 ft.

IBERIA PARISH—Warrick Oil Co., Bernard 1, Little Bayou dome, dr gbo 1920 ft. Jefferson Lake Oil Co., Lake Peigneur 32, dr cap rk 635 ft.

IBERVILLE PARISH—Standard Oil Co. of La., Myrtle Grove Wilbert 2, Bayou Choctaw dome, dr sh and shell, 3165 ft; Gay 2, Bayou Choctaw, dr w sn 6008 ft.

JEFFERSON DAVIS PARISH—Shell Pet. Corp., Fontenot 1, Iowa Dist., set 7-inch cas above oil sn at 6907 ft, woc.

LA FOURCHE PARISH—States Prod. Co., W. H. Starck E, Chacahoula dome, 500 ft w of Swamp D, ru.

PLAQUEMINE PARISH—Freeport Sulphur Co., Cochrell-Moran 1, Lake Washington dome, dr anhydrite 1293 ft.

TERREBONNE PARISH—Freeport Sulphur Co., Wurzlow 2, dr cap rk 1005 ft. The Texas Co., State 5, Dog Lake, dr 3790 ft hd sn and li; State Lake Barre 14, Lake Barre, ru; L. L. E. Lake Barre 2, top oil sn 3837 ft, set mixed str of 6⅝ and 7-inch cas at 3837 ft, woc, td 3870 ft. United Gas Co., Minor Est. 2, 10 mi n Four Isle Bayou dome, running milling tool at 3800 ft, old td 6002 ft.

NEW MEXICO . . . ROCKY MOUNTAIN

Oil and Gas Showing in Dry Creek Test Where Lakota Once Showed Water; Start Drilling in Greely Area.

Staff Correspondent, Casper, Wyoming

Good Showing Reported In Lakota at Dry Creek

Red Lodge, Mont.—First showings of oil and gas to be found in the Lakota sand in the Dry Creek field, Carbon County, southern Montana, are reported by Ohio Oil Company in Industrial 2, Section 11-7s-21e, which is coring in that sand below 5480 feet. The company's Chapman well, which is the only other well to have tested the sand, found water in the Lakota. Developments at this test should be of the utmost interest in the next few days; if they are successful, another sand will have been proved in the field.

The new location, Henry Bowman 1, Section 4-7s-21e, has rig completed; at Caldwell 1, Section 17-7s-21e, the company is drilling in shale at 2835 feet, and the William Robinson 2, Section 3-7s-21e, is drilling below 4018 feet.

Carbon Oil & Gas Company is shut down for repairs at McMinn 1, Section 7-7s-21e, in the eastern part of the field. The hole is bottomed on top of the second Frontier sand and is showing considerable gas along with a spray of oil; if the production in this sand is not commercial the well is to be drilled to the Dakota. Hole is now bottomed at 4234 feet.

Byron-Garland to Be Busy Area During Summer

Byron, Wyo.—The Byron-Garland area gives indications of being one of the most active districts in the Rocky Mountain territory this summer. Montana Wyoming Company, financed largely in Salt Lake City, will drill a test to the deep sands on its holdings in the southern part of the field; it already has several shallow wells producing gas in the shallow horizons. Taylor Oil Company, headed by W. O. Taylor of Cody, Wyoming, will drill a test on the Byron structure, on the south side of the Shoshone river, SE SE 25-56n-97w. It will be a rotary test and is on the Hoskins permit. The Garland Syndicate, composed of Cowley, Frannie, and Thermopolis, Wyoming, men, will complete the test started some years ago by Wisconsin Holdings Company. The location will be on the southern side of Garland dome, south of the shallow producing wells. On the north end of the structure a test is to be drilled by a group headed by Henry R. Harriman of Washington, D. C., and Lovell, Wyoming. Harriman has been identified with the development of several of the older central Wyoming fields.

Summer Campaign Under Way in Northeastern Colo.

Greeley, Colo.—First test to spud in and start drilling in the northeastern Colorado district this spring is that of the Tulsa-Fort Morgan Petroleum Corporation in the New Raymer district, NE NE Section 24-8-59, northeast of the producing wells at Greasewood Flats. It is expected that Ohio Oil Company will be the next entrant into the district with a location for rotary test northeast of the producing wells. This company plans to core drill the Buckingham district for the purpose of outlining a structure which has been indicated in that territory.

Rocky Mountain Field Developments

Wildcat Drilling Report

(Wells shut down not included)

COLORADO

ADAMS COUNTY—Hills Dome Lease Dev. Co., se 27-3s-54w, stand cem, 4025 ft.

ARAPAHOE COUNTY—McDeb Drlg. Co., Fitzsimons 1, ne 7-4s-66w, dr 6005 ft.

ARCHULETA COUNTY—Oil City Pete Co., Fitzhugh 1, sw 34-33-1e, sd for pipe, gas showing 717 ft.

EL PASO COUNTY—Gulf States Oil Corp., Carson 2, ne 10-16s-66w, dr 1670 ft.

JEFFERSON COUNTY—Ruby Hill O&G Co., Braden 1, se 24-4s-69w, wait 4¾ in, 4280 ft.

LA PLATA COUNTY—McGarr Pete Co.'s Pinon Mesa 1, ne 34-33n-12, rig up. J. W. Irwin & Co.'s Doescher 1, nw 29-33-13w, install rotary, td 3175 ft. Phipps et al, sw 9-33-13, td 520 ft.

LARIMER COUNTY—Mayer et al, Reed 1, nw 28-4-60, fsh tools 3800 ft.

PARK COUNTY — South Park O&G Co., Milligan 1, se 13-8s-76w, cem cave 2863 ft.

RIO BLANCO COUNTY—California Co.'s Raven 1, se 20-2n-102, fsh pipe 5020 ft.

WELD COUNTY—Reiter-Foster Oil Corp.'s Johnson-Juhl 1, se se 14-6n-61, standing for orders, 6270 ft. Tulsa-Ft. Morgan Oil Co.'s Arthis 1, ne ne 24-8n-59w, spudding. Weld Royalties Co., se 29-9n-61, cellar.

NEW MEXICO

BERNALILLO COUNTY—Norrins Realty, Pajarito Grant 1, 22-9n-1e, fsh casing 1295 ft.

CURRY COUNTY—G. L. Trout, 24-2n-31, dr 925 ft.

DE BACA COUNTY — Montgomery et al, Wood 1, sw 6-4n-20e, dr bel 4137 ft. Landowners Oil Co., State 1, ne 16-1s-27e, dr and carry 6¼-inch 4727 ft.

DONA ANA COUNTY—Middle States O. & G. Co., Boretzi 1, 14-26-5e, rigged.

GUADALUPE COUNTY—N. M. Prod. & Ref. Co., McMillan 1, 24-5n-16e, dr 4336 ft.

LEA COUNTY—Baker Oil Co., Inc., sw nw 15-13s-33e, mvg in.

LUNA COUNTY—Angelus O&M Co., State 3, se 30-21-10, try to reset cas 6171 ft.

RIO ARRIBA COUNTY—Governador Oil Co.'s 1, 14-29n-7w, working with pipe, td 2070 ft.

WYOMING

CARBON COUNTY—Prairie O&G Co.'s 1, 29-27-89, resuming 6147 ft. Midwest Refining Co.'s U. P. 27, 27-11-81, prep to resume 4020 ft.

CONVERSE COUNTY—John Ackard, se 24-33-72, dr bel 2000 ft.

FREMONT COUNTY—Wiebolt et al, 35-33-99, skd rig. Ward O&G Co., 28-34-90, rigged and ready to spud rotary test. Yellowstone Oil Co., Gabus 1, sw 14-38n-94w, resuming 918 ft.

NATRONA COUNTY — Mutual Oil Synd., Midway 2, sw se 14-36-79, dr 4750 ft.

SHERIDAN COUNTY—R. & D. Oil Co., nw se 21-57-97w, dr bel 1450 ft.

SWEETWATER COUNTY—Vermillion Oil Co., sw sw 16-12n-99w,, resuming 1800 ft.

WASHAKIE COUNTY — Bales Oil Trust Brome 1, ne nw 31-48n-90w, run 8¼ inch to bottom, 1105 ft.

WESTON COUNTY—Julius Peters et al., Weitzell 1, se nw 30-46-64, dr in Muddy 3400 ft. Martens & Paulsen, sw se 31-47n-63w, lcn. Gose Oil Synd., ne 28-47n-63w, ur to lower 6¼ inch, td 5050 ft.

MONTANA

BROADWATER COUNTY—Capitol O&G Co., nw 7-8n-1e, dr bel 2000 ft.

CARBON COUNTY—Corbett Roy. Co., sw se 1-16s-23e, resuming at 1120 ft. Jack Creek O&G Co., se 15-7s-23e, skid rig. Midland Oil Co., nw 24-6s-23e, spdg 300 ft. Ohio Oil Co., Kutchinski 1, 15-7s21e, dr in sulfur water in Lakota at 6115 ft.

CARTER COUNTY—E. T. Moorhead, sw 34-4s-57w, wait for 12½ inch at 350 ft.

CASCADE COUNTY—Buscher & Cassady, Johnson 1, se 19-22-3e, wait for Merz test, td 1387 ft. Charles Merz et al's Sheffels 1, nw 4-21-4e, dr 1175 ft.

FALLON COUNTY—H. W. MacDonald's 1, sw 28-8n-60e, prep to resume 1682 ft.

FERGUS COUNTY—Melton Corporation's 1, sw 24-21n-17e, dr and carry 8¼ inch 3150 ft. Landheim-Romunstad 2, ne 3-17n-20e, set 6⅝ inch at 2116 ft, td 2600 ft.

GALLATIN COUNTY — Montana Gas & Pete Corp., Adams 1, 35-1n-2e, dr 1650 ft. Gallatin Valley Oil Co., Haglund 1, sw 13-34-6w, to res 2539 ft.

GLACIER COUNTY—Finn et al, McLellan 1, nw se 12-34-6w, rig up, wait for dr pipe and financing. Fulton Blackfeet Oil Co., ne 28-36-12w, delayed in mvg in, bad weather, td 2947 ft. Jefferies et al, se ne 17-31-12w, prep to dd from 2980 ft. Tarrant et al's Haglund 1, nw se 13-34-6w, dr bel 2780 ft. Browning Dev. Co., Reickhoff 1, ne 3-34-6w, wait on Tarrant well. B. & H. Oil Co., se se 2-34-6w, prep to run rods and tubing to test.

GOLDEN VALLEY COUNTY—Golden Valley Oil Co., 2-6n-22, dr bel 3040 ft.

LIBERTY COUNTY — Northland O&G Corp., Yurman 1, sw 32-33-5e, cem to so. cave, td 3815 ft. Peoples O&G Co., nw 17-36-6e, cem back to 1000 ft from td 2000 ft.

MUSSELSHELL COUNTY—Minnesota-Flatwillow Pete Co.'s 1, sw 7-11-31e, prep to resume 2565 ft.

PONDERA COUNTY—Bell-Adams 1, ne 31-27-4w, dr 400 ft.

TETON COUNTY—California Co.'s Sullivan 1, nw 34-28-7s, recem at 2600 ft, td 2810 ft.

TOOLE COUNTY—Oregon Syndicate, se 20-36-2e, dr 2580 ft.

VALLEY COUNTY—Opheim O&G Co., ne 28-37n-38e, mvg in.

YELLOWSTONE COUNTY — Spokane-Laurel Oil Co., sw se 30-2s-24e, dr 500 ft. Peter Antonioli, ne ne 2-2n-25e, prep to run 5 3/16 inch, td 2470 ft.

LOUISIANA FIELDS

Zwolle Has Four New Starts and One Completion During Week; Deep Test Making Hole Mile Down.

Staff Correspondent, Shreveport, La.

Installing Air Lift on Zwolle Field Wells

Shreveport, La.—Air lift units are being introduced in the Zwolle field. Three of the 104 producing wells are now equipped, while plans are under consideration for introducing this method on the five wells of Blue Lake or West Zwoile.

Rush and French are using air lift on Martinez 1, Section 11-7-13, a mile southwest extension well of the southwest part of the Zwolle townsite "hot spot." This well when completed making 3000 barrels of oil daily, later went dead and when revived made about 900 barrels of fluid, with a high per cent of salt water. When the air lift unit was installed, the well was making 750 barrels of fluid daily, 10 per cent oil. The fluid yield was built up as a result of the air lift, to a daily fluid yield of 5000 barrels, 10 per cent oil. For the week ending May 7, this well averaged 274 barrels of oil daily. Its total oil yield for April by air lift was 6553 barrels. H. W. Perritt's Bowman-Hicks 3, Section 2-7-12, in the southeast part of the Zwolle east field, last week averaged 47 barrels of oil daily, the amount of water accompanying it not being given. No data were secured on the third well using air lift, Coats Petroleum Company's Mansfield Hardwood Lumber Company 1, Section 35-8-13, in the northwest edge of the townsite part of the field. He is planning to install air lift units on two other wells in the townsite part of the field.

Zwolle oil output up to May 1 this year was 5,146,586 barrels. The total yield for the month of April in that district was 181,916 barrels. Production in Zwolle comes from a marl and chalk just below the Nacatosh sand which does not appear as such in this area, except in the first producer in the Blue Lake area.

Producing depth is from 2100 to 2700 feet. The field lends itself very satisfactorily to air lift methods, the depth being excellent for this method of production, and also because of the high rate fluid travel there which is due to the fact that there is a crevice condition, pay being found in the "breaks" or crevices of the marl or chalk, with a hydrostatic pressure behind.

The problem of disposal so far has been handled by impounding the salt water, after the fluid is treated in tankage by use of chemicals.

Zwolle Deep Test More Than Mile Deep

Shreveport, La.—R. L. Gay, Trustee's Long-Bell A-1, NW NW Section 10-8-13, five miles north of the Zwolle chalk rock oil producing area, was drilling ahead at exactly one mile depth on Wednesday, May 11, being at 5280 feet in lime and shale. This test continues to set new depth records for the general Zwolle area. This test several weeks ago cored 14 feet of oolitic lime of the Glen Rose, showing an oil saturation at 4772-87 feet but later after casing was set, salt water broke in and the well was continued deeper.

Eight miles southeast of this test, Loring Oil Company's Bowman-Hicks 18, Section 15-7-12, which after attaining 4850 feet, had to sidetrack at 4480 feet, last week was drilling at 4912 feet in lime.

Zwolle accounted for four new locations for the week ending May 11, three of them being for the southwest sector recently opened between the Zwolle townsite pool and Blue Lake. In the southeast Zwolle field C. T. Ruffian made location and is rigging up for Lilley 1, NE NW Section 8-7-11.

Zwolle had only one completion during the last week, Ruston Drilling Company's Cutrer 1, Section 13-7-11, being abandoned as a dry hole in chalk at 2632 feet.

Monroe Gas Wells Get Delayed Production Gauge

Shreveport, La.—The semi-annual regauge of the Monroe gas field located in parts of Morehouse, Ouachita, and Union Parishes, is being completed by agents of the minerals division, Louisiana Conservation Commission. The regauge this spring was delayed by overflow of the Ouachita River. The regauge of the Richland gas field in Richland Parish has been completed and turned in to Dr. J. A. Shaw, supervisor of the minerals division, and is now being tabulated.

The daily allowable withdrawals for each well are made for the succeeding six months on the open flow capacity as given by the re-gauge. The Monroe field has approximately six billion cubic feet daily open flow capacity and the Richland field, approximately two and one-half billion feet.

DeSoto Parish Wildcat Has Annona-Saratoga Objective

Shreveport, La.—Rudeseal and associates during the past week made location and started rigging up for Nabors 3, Section 6-12-11, in the old Naborton field of DeSoto Parish, planning to drill for the Annona-Saratoga chalk found there about 1100-1400 feet. It is said a thorough exploration of this horizon as a potential pay zone was not made during the development of the field in lower strata but that a number of tests there showed oil in this shallow horizon.

In the Pelican district of DeSoto Parish, Cooker and associates last week erected derrick for Boone 1, SW NW Section 12-10-11.

North Louisiana Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
DE SOTO PARISH—		
Warren & Craig & North Star Oil Co., C. Phillips 1, 33-13-14.....	*	3200
SABINE PARISH (Zwolle)—		
Ruston Drilling Co., Cutrer 1, 13-7-11	*	2632

New Operations

CAMERON PARISH—Yount Lee Oil Co., Beaumont, Texas, Kelso Bayou 53, 24-12s-10w, 445 ft s 275 ft e nw cor sec; 52, 24-12s-10w, 495 ft s 420 ft e nw cor sec; 51, 24-12s-10w, 545 ft s 560 ft e nw cor sec; 50, 24-12s-10w, 600 ft s 700 ft e nw cor sec.

SABINE PARISH—Hill Myers et al, Shreveport, Eli Garcia 1, 4-7n-13w, 330 ft n and 330 ft w se cor sw¼ nw¼ sec. M. L. Friend, Shreveport, Ezernack 1, 2-7n-13w, 250 ft n and 330 ft w se cor n½ ne¼ sec. J. E. Nulton 1, 2-7n-13w, 1570 ft s and 250 ft w ne cor sec.

Wildcat Drilling Report

(Wells shut down not included)

BOSSIER PARISH — Dr. Hankins et al, Newell 1, 12-19-11, sd 1895 ft.

CALDWELL PARISH—Carter Bell et al, A. R. Taylor 1, 17-14-4e, dr shale 2900 ft.

DE SOTO PARISH—Walters & Nicholson, Jim Guy 1, 3-11-13, dr chalk 1715 ft. E. T. Oakes, Johnson 1, 30-13-15, core shale, lime and shells, 3526 ft. De Soto Dev. Co., Nickie 1, 7-13-12, dk. Donly Bros.' H. Smith 1, 31-14-15, arr res, td 2295 ft. Standard Oil Co. of La., Sutherlin 1, 19-12-14, rig. Cooker et al, Boone 1, sw nw 12-10-11, dk.

GRANT PARISH — Security Pet. Corp., Swope 1, 16-9-1e, topped oil sand 1537 ft, 6-in. cemtd 1540 ft, td 1582 ft, bro sand and shale. Robichanx et al, Bradford 1, 16-9-1e, dk.

NATCHITOCHES PARISH — Southland Drilling Co., Ross Olive 1, 10-9-10, rig. Dr. H. S. Gerson et al, Smith 1, 14-10-8w, dr rock 1120 ft; Smith 3, 6-10-8w, lcn. H. W. Perritt, Brown Lbr. Co. 2, 29-8-9, 12½ cas 102 ft, dr 819 ft; Cook 1, 3-8-9, 12½ cas 102 ft, dr 1200 ft. Rains et al, Beard 1, 8-8-10, dk.

OUACHITA PARISH—Wilson & Mitchell,

W. L. Williams 1, 5-16-1e, dr lime and shale 3075 ft.

RED RIVER PARISH—C. F. Davis, Peterson 1, sw nw 12-14-11, dk.

SABINE PARISH—J. J. Kean, Belton 1, 31-9-13, elev 232.7 ft, 6-inch 3104 ft, collapsed at 2808 ft, mo cas, td 3128 ft (lower Cretaceous). R. L. Gay, Tr., Long-Bell A-1, nw nw 10-8-13, core shale and lime 5280 ft. Texas Co., Giaque B-1, 10-7-13, 6-inch 2060 ft, dry at 2270 and 2445 ft, dr 2450 ft. J. H. Askew, Sabine 1, 9-7-13, dk. Geo. LeGrand, McGowan 1, nw nw 2-8-10, 10-inch 100 ft. Loring Oil Co., Bowman-Hicks 18, 15-7-12, sdtr at 4480 ft, old td 4850 ft, dr lime 4912 ft. Higgins et al, Walden 1, 26-8-11, 6-inch 2331 ft, tested dry, wo 2606 ft. Mays & Mead, DeLong 1, 5-7-10, dk. Williams & Spiers, Williams 1, 31-8-10, dk. State Prod. Co., Davis 1, 17-7-10, 10-inch 100 ft, dr 450 ft. King, Tr., Germain 1, 7-7-10, sd 1520 ft. J. I. Hall, Williams 1, 3-7-10, claim oil show at 2460 ft, set 5-inch OD cas with 139 ft perf. on bottom, blg to test, td 2635 ft. J. M. Bridges' Armstrong 1, 28-10-11, chalk 1559-2074 ft, top Blossom 2224 ft, dr sand lime 2405 ft. Southland Drilling Co., Frost Lbr. Ind. 1, ne ne 13-9-11, dr 300 ft. G. E. Jordan, Dew 1, sw se 34-8-11, lcn. State Prod. Co., Davis B-1, 17-7-10, dk pat. C. H. Tuttle, Byrd 2, nw nw 7-7-10, rig.

WEBSTER PARISH—J. K. Wadley et al, Matthews 1, 11-23-9, cemtd 6⅝ cas 2795 ft, dr plug, td 2800 ft.

Will Process Rhodessa Gas In Old Pine Island Plant

Shreveport, La.—United Gas Public Service Company during the last week was stringing pipe and digging the ditch for a welded gas pipe line from the Rodessa gas field in north Caddo Parish to Magnolia Gas Company's absorption plant in the Pine Island area of Caddo Parish, a distance of 14 miles.

Part of the line will be actylene welded line and part electrically welded. Seven miles of the line will be 10-inch, five miles 12-inch, and two miles of 14-inch size. The plant immediately upon completion of the line will handle about five million cubic feet of gas daily, but improvements will be added. The plant was first built to handle the upper Trinity gas in Pine Island but later was partly dismantled when this became depleted about three years ago.

Rodessa, where gas with a high gasoline content ranging as high as 2000 gallons per million cubic feet, is found in the upper Trinity at 5500-5600 feet, the deepest pay horizon in North Louisiana, South Arkansas, or East Texas, has at present seven gas wells with an open flow capacity of 225 million cubic feet daily. Only one four-inch line, installed last December has been taking gas from the field, to Arkansas Natural Gas Company's trunk gas line about three miles from the field. The present line now being built will be the first real outlet the field has had. The first gasser was completed there in August, 1930. United Gas Public Service Company owns all the present gassers.

All the gassers there are equipped with bottom hole chokes installed by Southern States Company, Inc.—(THE OIL WEEKLY, April 4, 1932, page 41.)

SOUTHEASTERN STATES

Gas From Jackson Field Has High Heating Value

Washington.—The Jackson gas field, adjacent to the city of Jackson, Mississippi, is described in a report recently issued by the United States Geological Survey, Department of the Interior, as Bulletin 831-A, and obtainable at 10 cents a copy from the Superintendent of Documents, Washington, D. C. The bringing in of the first gas well in this field in February, 1930, was followed by intensive drilling, and within the next year 42 gas wells had been completed with a total daily open-flow capacity of over 1,250,000,000 cubic feet of gas. Gas from the field is distributed by the United Gas Public Service Company, the Mississippi Power & Light Company, and the Mississippi Industrial Gas Company, and the output of two wells is consumed by the Gulf States Creosoting Company. The gas has a high heating value and contains a large percentage of methane. It is produced from a Cretaceous chalk 2088 to 2236 feet below sea level, in three separate areas where the chalk and the overlying rocks have been upwarped into domes or anticlines.

Alabama Wildcat Still Finding Formations High

Jackson, Alabama.—Tidal Oil Company's Ramsey Petroleum Company and Danciger Oil & Refining Company's Everett & Boykin 1, NE SE Section 33-6n-2e, Clarke County, Alabama, on the Hatchetigbee Anticline, topped the Tuscaloosa red beds during the last week, at 1738 feet; elevation is 65 feet. On Thursday, May 12, the well was shut down at 1792 feet waiting on rock bit.

This well logged the Selma-Ripley contact at 801 feet, the highest ever encountered on the Hatchetigbee structure and continues to check high as indicated by the Tuscaloosa contact. Base of the Selma-Ripley chalk was 1340 feet which was also top of the Eutaw, the contact of this formation being a grayish green shale. Contract depth is 3500 feet.

Wildcat Drilling Report

(Wells shut down not included)

MISSISSIPPI

CLARKE COUNTY (Quitman) — F. X. Gowans, Elfring 1, se ne 13-1n-14e, move in rig.

HINDS COUNTY (Edwards Dist.)—Miss. Minn. Oil Co., Edwards Land Co. 1, sw ne 23-6n-4w, dr 2935 ft.

LAMAR COUNTY (Purvis Dist.)—Stauffer & Kouri, Trs., Bond 1, se ne 18-2n-14w, 10-in. 1050 ft, arr dr plug, td 1090 ft.

LOWNDES COUNTY — Lowndes County O&G Co., Carr Est. 1, ne nw 34-17-16e, rig.

RANKIN COUNTY — Majestic O&G Co., Elton Lbr. Co. 1, 10-4n-3e, dk.

SHARKEY COUNTY (Nitta Yuma)—United Gas Pub. Serv. Co., Lenhart 1, 14-14n-6w, elev 100.6 ft, dr 3694 ft.

ALABAMA

(Wells shut down not included)

CLARKE COUNTY (Jackson) — Tidal Oil Co. et al, Everett & Boykin 1, ne se 33-6n-2e, elev 65 ft, 12½ cas 337 ft, top Ripley-Selma chalk 801 ft, base 1340 ft and top Eutaw (grayish green shale), sd wo rock bit 1792 ft.

LAMAR COUNTY (Vernon)—P. J. McAlpine et al, Gardner 1, nw nw 22-15s-16w, elev 503 ft, dr coarse loose sand rock 1233 ft.

WASHINGTON COUNTY—South Ala. O&G Co., St. Stephens A-1, 26-7n-1w, elev 187.2 ft, dk and move in rig.

TENNESSEE

CHESTER COUNTY—Gilmore et al, Scott 1, top Eutaw 1045 ft, top rock (Paleozoic?), 1190 ft.

EASTERN STATES

Completions

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
Penn-New York Oil Co., Dickenson 1	*	5450
Penn United Gas Co., Fair Grounds 1	*	5307
SULLIVAN COUNTY—		
Schrack & Co., Myers 1	*	5180
TIOGA-WAYNE FIELD—		
North Branch Development Co., Colegrove 1,	¶4	....

WEST VIRGINIA

CALHOUN COUNTY—		
T. J. & A. H. Jackson, Jackson 3	¶1	1905
FAYETTE COUNTY—		
Grosscup & Schultz, Loop Creek Estate 1	*	2652
LINCOLN COUNTY—		
Parsner Gas Co., Elkins 2	¶¼	2435
MINGO COUNTY—		
United Fuel Gas Co., Cotig 4331	*	4657
Central Trust 4324	¶¼	4095
Central Trust 4329	¶½	3866
WETZEL COUNTY—		
Pittsburg & West Virginia Gas Co., Ashcraft 5403	¶¼	3643

Eastern Field Developments

Completions

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
WASHINGTON COUNTY—		
Schramm Bros. Gas Co., Christopher 10	*	1545

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
BELMONT COUNTY—		
Ohio Fuel Gas Co., Voght 1	¶¼	1751
HOCKING COUNTY—		
City Natural Gas Works, Shull 1	¶¼	2553
MEIGS COUNTY—		
Vulcan Gas Co., Johnson 4	*	881
MEDINA COUNTY—		
Oko Oil & Gas Co., Essig 54	35	400
Edson & Co., G. Packard 35	50	376
Shaw 22	*	....
Barnhart & Co., Funk 9	*	417
STARK COUNTY—		
Wiser Oil Co., Lake-O-Spring 2	¶1¼	4380
East Ohio Gas Co., Harris 4	¶2½	4437
Hall 2	¶2¾	4375

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
DARKE COUNTY—		
Lee Booth, Braymaier 1	¶½	....
SENECA COUNTY—		
L. Curry, Hoover 1	¶¼	....
J. H. Murphy & Sons, Knepper 2	¶¼	1490

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
SULLIVAN COUNTY—		
Thompson-Crathers, Lloyd & Co. 1	*	700

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
CRAWFORD COUNTY—		
John Phipps, Laughead 1	*	1025
W. C. McBride, Inc. Seaney 1	*	1025

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
HART COUNTY—		
Mud Branch Oil & Gas Co., Seymour 3	30	....
HOPKINS COUNTY—		
Federal Fuel Corporation, Unknown 1	*	....
Reynolds 2	*	....
HENDERSON COUNTY—		
Imperial Oil & Gas Products Co., Walker 1	*	....
Freeman 2	50	....
MUHLENBERG COUNTY—		
The Ohio Oil Co., Walker 1	¶1	680
McLEAN COUNTY—		
James C. Ellis & Co., Henry 1	*	4000

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
ISABELLA COUNTY—		
Mellon-Pollock Oil Co., Brief 3	100	....
MIDLAND COUNTY—		
The Pure Oil Co., Mullette & Co. 3	2500	....
Reed 3	1600	....
W. L. McClanahan, Inc., Morrison 4	3000	....
Talbot Oil Co., State of Michigan land, C-1	3500	....

Hamilton Made President Louisiana-Arkansas Refiners

El Dorado, Arkansas.—D. P. Hamilton of the Root Refining Company, with headquarters in Shreveport, was elected president of the Louisiana-Arkansas Refiners Association, at its annual meeting held in El Dorado Tuesday. He has been acting as first vice-president.

Other officers elected are: C. M. Lamason, Louisiana Oil Refining Corporation, first vice-president; B. H. Gray, Spartan Refining Company, Shreveport, second vice-president; R. R. Brinkman, Shreveport, treasurer; and Leon C. Grosjean, Shreveport, executive secretary (re-elected). Headquarters of the association will remain in Shreveport.

The board of directors elected follows: C. M. Lamason, Col. T. H. Barton, Lion Oil Refining Company, El Dorado; Horace Cannon, Root Refining Company; B. H. Gray; J. H. Riedemann, Crystal Oil & Refining Company, Shreveport; J. E. Shatford, Ouachita Valley Refining Company, El Dorado; W. B. Hassett, Kettle Creek Refining Company, El Dorado; W. E. Winship, Chalmette Petroleum Corporation, New Orleans; F. R. Schneider, Simms Oil Company; George H. Hartung, Houston Oil Company; J. K. Mahoney, MacMillan Petroleum Corporation.

The executive committee will consist of the president, two vice-presidents, and Col. Barton and Mr. Riedemann; finance and budget committee, Mr. Lamason, Mr. Cannon and Mr. Reidemann; manufacturing committee, R. B. Pierce, Louisiana Oil Refining Corporation; R. G. Colquitt, Root Refining Company; and J. J. Allinson, Lion Oil Refining Company.

Howard Bennett of the Western Petroleum Refining Association, addressed the meeting. Col. Barton, the retiring president, was host to those attending the meeting at a luncheon at his home.

ARKANSAS FIELDS

Mount Holly Area Wildcat Will Try Pump on Oil Show

El Dorado, Arkansas.—W. H. Copenhaver and Associates' Berg 1, Section 13-15-17, Ouachita County, Arkansas, four miles northeast of the Mount Holly field that yielded three small producers in 1929, is standing with 700 feet of oil in the hole, at total depth of 2208 feet, and will be standardized; the well is between the Louann sector of Smackover and Mount Holly, the latter now abandoned as a producing area. Six-inch casing was cemented at 2141 feet.

Pigeon Hill Oil Company's Union Sawmill 1, NW SW Section 19-17-12, Union County, a wildcat, on May 10 cored sandy shale, which carried a light show of oil from 2426 to 2434 feet.

John James, Trustee's Fordyce Lumber Company 1, Section 11-9s-15w, Dallas County wildcat, in which drill stem was hung, total depth being 2575 feet in black shale, has had 450 feet of the drill stem backed off.

Arkansas had no new locations or completions for the week ending May 11.

Arkansas Field Developments

* Wildcat Drilling Report

(Wells shut down not included)

ASHLEY COUNTY—D. S. Brocks et al, Crossett Lbr. Co. 1, sw se 31-15-6, dr black shale and rock 2955 ft.

CRAWFORD COUNTY — Ozark Nat. Gas Co., C. E. Jones 1, 32-9n-32w, dr shale 980 ft.

DALLAS COUNTY—Jno. James, Tr., Fordyce Lbr. Co. 1, 11-9s-15w, backed off 450 ft, drill stem, td 2575 ft black shale.

HOT SPRINGS COUNTY—Starr Oil Co., Cunningham 1, 11-5s-16w, sd for fuel, 1306 ft.

MILLER COUNTY—Fitzwater et al, E. L. Beck 1, sw se 33-15-26, sd 2820 ft gumbo.

OUACHITA COUNTY—Copenhaver et al, Berg 1, 13-15-17, 6-inch cas 2141 ft, 700 ft oil in hole, wosr, td 2208 ft.

UNION COUNTY — Southern Prod. Co., Wingfield 1, 16-19-15, cored sandy lime 3606-11 ft, sd wo drill stem, td 3611 ft. Pigeon Hill Oil Co., Union Sawmill 1, nw sw 19-17-12, cored sandy shale with light show oil 2426-34 ft.

WASHINGTON COUNTY — Chase & Rogers, Cunningham 1, sw ne 14-15n-32w, lcn.

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New Equipment for the Field

MACHINERY - TOOLS CATALOGS - BOOKS

▼ ▼ ▼

1. Foam Extinguishers

AMERICAN-LAFRANCE AND FOAMITE CORPORATION

American-LaFrance and Foamite Corporation, Elmira, New York, announces two new fire extinguishers presenting advanced improvements. The new models are known as the Foamite Crusader and the "Childs" Model DS—both 2½-gallon size.

Basically, the new models are claimed to be the same extinguishers as their predecessors—the Foamite Model CA and the "Childs" Soda-Acid—but with improvements which are said to give them greater strength, more fire-killing power, greater reliability, better appearance and longer life.

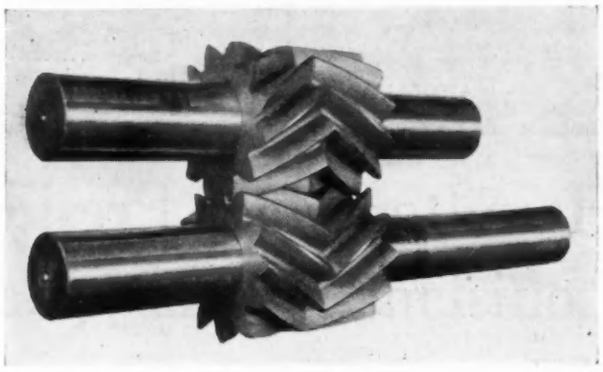
Principal among the advanced features of the new models is the "Monotype" construction. The dome and shell is drawn from a single sheet of special alloy which the manufacturer claims has special corrosion-resisting qualities. All riveted seams are eliminated.

New Type Extinguishers

Other features of this new line of fire extinguishers include: new type collar construction, which does not depend on solder for strength. The discharge elbow is threaded and sweated into an extruded boss integral with the shell. The discharge hose is attached to the elbow and nozzle by means of hose clamps so that it can be easily removed and quickly replaced.

A special patented discharge screen is used on the Foamite Crusader and this feature eliminates the initial slug of raw solutions. The manufacturer claims that firefoam is produced the instant the device is inverted. A patented knife-edge stopple seat eliminates all tendency for the stopple to stick.

In the "Childs" Model DS extinguisher, the manufacturer has incorporated Pyrex glass for the acid bottle. The acid bottle is mounted in a special spring wire cage for which patents have been applied for. This new type of bottle cage eliminates the danger of bottle breakage due to rough handling.



Farrell-Sykes Herringbone Gears

2. Gears

FARREL-BIRMINGHAM COMPANY

Farrel-Birmingham Company, Ansonia, Connecticut, announces to the trade the Farrel-Sykes herringbone gears.

The smaller sizes of these gears are used with motors direct connected to them running up to 1800 R. P. M. The application of the gears to larger pumps has just recently become general. The gears illustrated here run at 435 R. P. M. and pump 625 gallons per minute against a head of 200 pounds.

The Farrel-Sykes pump rotors are made in a variety of material, including bronze, high carbon forged steel, nickel-alloy cast iron, and various alloy steels including Nitralloy. The shape of the gear tooth is designed to reduce trapping of the liquid to a minimum, and to eliminate hydraulic noises.

"Geophysical Prospecting, 1932," is the title of a recent publication of the American Institute of Mining and Metallurgical Engineers, 29 West 39th Street, New York, New York. Constituting a sequel to an earlier publication by the institute, "Geophysical Prospecting, 1929," this new book is a collection of papers and discussions presented at meetings of the above organization held at New York, February, 1929, 1930, 1931 and 1932. It is a 509-page, red, cloth bound volume, 6¼ by 9¼ inches.

The book contains 27 papers, dealing with the four outstanding methods of geophysical exploration: electrical, magnetic, seismic, and gravimetric. All the papers are contributions of men prominent in geophysical work or studies.

— — — — — — ***MAIL COUPON*** — — — — — —

THE OIL WEEKLY,
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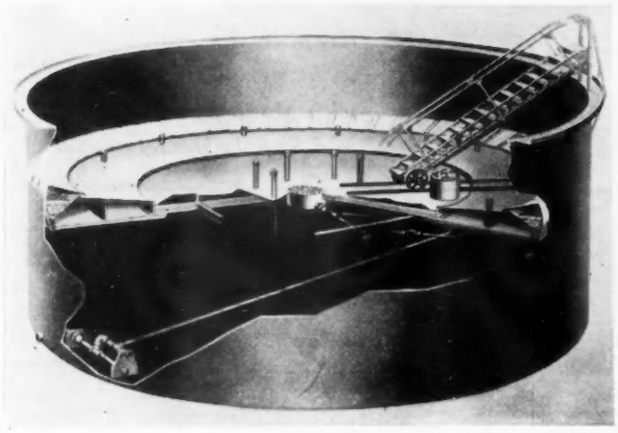


Columbian Tank Roof

3. Floating Tank Roof

COLUMBIAN STEEL TANK COMPANY

Columbian Steel Tank Company, Kansas City, Missouri, announces a floating roof for the storage of volatile liquids. It consists of a flat wind steel plate structure slightly smaller than the tank and supported by rigid web-like structural members.

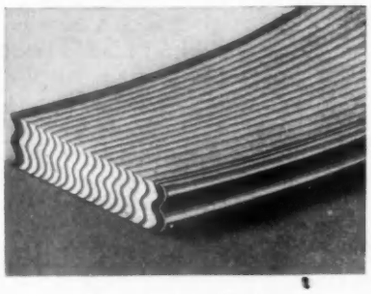
Around the edges are flexible gravel baskets that form a continuous and close union with the tank shell as the roof rises and lowers on the surface of the stored liquid. This prevents evaporation loss of the liquids and also prevents the forming of inflammable gases.

This particular roof, or deck, has a double shell around the outer half of the tank radius, making a pontoon effect. This acts as an insulator against heat and cold, further retarding vaporization of the contents of the tank. It also adds to the buoyancy of the floating roof itself.

4. Gasket

GARLOCK PACKING COMPANY

Garlock Packing Company, Palmyra, N. Y., has recently developed a type of gasket known as the Guardian gasket to meet requirements demanding: safety against any pressure or temperature, resistance to gases and liquids; tight



New Garlock Packing

joints under changing temperatures; continued resiliency in service. This gasket is designed for service on boilers, pipe lines or other equipment subject to frequent or rapid temperature changes or on jobs where vibration is encountered. The construction of the gasket is such that it serves in the capacity of an expansion joint, adjusting itself, without leakage, to the expansion and contraction of the joint.

There are three points of resiliency in the Garlock Guardian gasket. The tightening of the gasket in the joint does not destroy the compression and rebound qualities which it possesses, according to the manufacturer.

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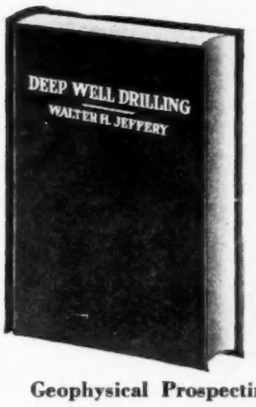

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by

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Re-written and revised to date, and enlarged by the addition of the following New Chapters:

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A. P. I. Codes.

Preparatory to writing the new book, the author spent weeks in a first hand study of modern methods of drilling by the rotary system, and of completing wells, controlling high pressures and operating wells in the deep fields of California and Oklahoma.

The third edition contains 816 pages, 150 pages more than the second edition, and 452 illustrations, but the price is the same, $6.00.

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NEWS *from the* *Industry's* EQUIPMENT MAKERS

Keeping in touch with developments with Manufacturers and Supply Dealers

Barber-Greene Boston Representative

Barber-Greene Company, Aurora, Illinois, announces appointment of Walter B. Holder as branch manager of the Boston office.

Mr. Holder has been with Barber-Greene Company since 1926. Prior to coming with the company, he had 11 years experience with the Underwood Machinery Company, the Mead-Morisson Manufacturing Company, and George P. Carver, Incorporated. His technical education and knowledge of the line of Barber-Greene machines fit him for solving the handling problems of Barber-Green prospects and customers in his territory.

Jess Emery Represents Three Manufacturers

Petroleum Equipment Company, Oil Field Engineering Corporation and Robinson Packer Company have jointly appointed Jess Emery as East Texas district representative, with complete warehouse stocks at Kilgore. Emery is an old timer in the equipment business in the Mid-Continent, and has been in the East Texas field since the first activity started.

JESS EMERY

WALTER PARKER

Pittsburgh Equitable Meter Company announces the appointment of Walter Parker as chief engineer, Liquid Meter Division. Previous to his association with this company, where he has been doing special engineering work, Parker was chief engineer of Fry Pump Company. His experience in designing and building meters and allied equipment for the petroleum industry covers many years. He is a graduate in mechanical engineering of North Carolina State University.

Harry Burlow Selling Joyce Jacks

Harry B. Burlow, formerly vice-president in charge of distributor's sales for Templeton-Kenly & Company, Chicago, is now manager of distributor's sales for Joyce-Cridland Company, Dayton, Ohio, manufacturers of Joyce Jacks. The Joyce line embraces a complete range of lifting jacks, covering sizes from five to 100 tons capacity and includes emergency jacks, hydraulic jacks and ball bearing jacks.

It is Mr. Burlow's intention to develop the market for Joyce jacks in the oil country through leading oil well supply houses.

Lantern Sales Force For Southwest

Economy Electric Lantern Company, 325 West Huron Street, Chicago, Illinois, announces appointment of H. C. and L. M. Gardner, 2227 Warner Road, Fort Worth, Texas, as representatives for Texas, Louisiana, Arkansas and New Mexico, and the appointment of W. L. Walker Company, 800 South Main Street, Tulsa, Oklahoma, as representative for Kansas and Oklahoma.

Waukesha Appoints Pacific Coast Distributor

Waukesha Motor Company, Waukesha, Wisconsin, reports the appointment of Waukesha Pacific Parts Company as authorized distributors for parts and power units on the Pacific Coast. The company has two establishments, one at 635 Mission Street, San Francisco, and the other at 939 Santa Fe Avenue, Los Angeles. In the San Francisco station will also be located the company's Pacific Coast representative, Herbert Wirshing, in charge of engine and unit sales to manufacturers.

Preformed Wire Rope Manufacturers

American Cable Company announces that the Macwhyte Company has recently been added to the long list of wire rope manufacturers licensed to manufacture preformed wire rope under American Cable Company's patents.

Other companies in the United States licensed to make preformed wire rope are: American Steel & Wire Company, Broderick & Bascom Company, E. H. Edwards Company, Hazard Wire Rope Company, Hazard Wire Rope Company, Pacific Wire Rope Company, General Cable Corporation, and the Wire Rope Manufacturing & Equipment Company.

Lincoln Electric Names New Distributor

Lincoln Electric Company, Cleveland, Ohio, announces appointment of the Great Northern Tool and Supply Company as distributors for Lincoln products in Montana and Wyoming.

Welders, welding supplies and "Lincweld" motors will be distributed in this territory through Great Northern stores and shops in Billings and Kevin, Montana; Cody and Casper, Wyoming.

Shand and Jurs Names New York Manager

Shand and Jurs Sales Company announces the appointment of Harvey D. Crawford as division manager in charge of the New York office, 60 East 42 Street. Mr. Crawford formerly was connected with the refinery sales division of Johns-Manville, New York.

American Steel and Wire Company, Chicago, has opened a new warehouse at 2364 South Ashland Avenue, Chicago, to take the place of a former warehouse maintained at 403 West Lake Street.

Squeaks *from the* BULL WHEEL

During the day Mrs. Brown discharged her old maid and hired a new one, who answered the door bell when Mr. Brown arrived home in the evening. He carried a bunch of roses which he handed to the maid, saying:

"Present these to Mrs. Brown, telling her I want to see her at once."

"All right," said the maid, "but you better make it snappy, because she expects the old man any minute now."

Employment Manager: What are you—valet?

Applicant: No, suh! Ah may resemble him, but I doesn't croon a note.

Bobby: "Daddy! A boy at school told me that I looked just like you!"

The Dad: "That so? And what did you say?"

Bobby: "Nothin'. He was bigger'n me."

"You're scared to fight."

"I ain't; but me mother'll lick me."

"Ah' how'll she know?"

"She'll see the doctor goin' to your house."

The moon was great, and they were all alone underneath it. They were quiet—and then something slipped. It was his arm around her waist. He had a brainstorm. "Lib," he breathed, "you say you won't let me kiss you. I'll bet a dollar I can without touching you."

"I'll bet."

He kissed her right on the cheek—or somewhere.

"But you touched me," she declared, not disappointedly.

"I know it; here's your dollar."

"What other games do you play?" she gulped.

A young preacher came to one of the distant settlements, and started in to reform the natives. Among other things to which he objected was smoking by women. He stopped one day at old Nancy's cabin and found her enjoying an after dinner smoke on her corncob pipe.

"Aunt Nancy," he said, "when your time comes to go, and you apply for admission at the gate of Heaven, do you expect St. Peter will let you in if he detects the odor of tobacco on your breath?"

The old woman took the pipe out of her mouth and said:

"Young man, when I go to Heaven, I expect to leave my breath behind."

Agnes—Weren't you embarrassed when young Dr. Jones asked for your hand?

Amy—Indeed I was. I didn't know whether he wanted to take me or my pulse.

Customer—I would like a book, please.

Shopman—Something light?

Customer—That doesn't matter; I have my car with me.

The following is one of many stories told about former President Coolidge's reticence.

Mr. Coolidge attended church one Sunday morning. Mrs. Coolidge did not go. Upon his return, Mrs. Coolidge asked him what the minister preached about.

"Sin," he replied.

"What did he say about it?" queried Mrs. Coolidge.

"He was against it."

Daddy is so pleased to hear you are a poet.

Fine. He likes poetry then?

Not at all. But the last boy friend of mine he tried to throw out was an amateur boxer.

The teacher in a school was drawing pictures on the board and asked each individual what they represented. Drawing a picture, she called on a little girl in the front seat.

"Marry, what is this?"

Mary—"A kitten, teacher."

"What is this, Tommy?"

Then she drew a picture of a deer and, calling on little Johnnie, who had been quiet all the period, she said: "Johnnie, can you tell me what this is?"

Johnnie—"No."

Teacher—"Think hard—what does your mother call your father?"

Johnnie—"But a jackass doesn't have horns, teacher."

"My husband is merely a manufacturer of waste-baskets," sighed the woman with aspirations. "It seems such a prosy occupation."

"On the contrary, there is really much poetry in waste-baskets," replied the unappreciative bard.

The Baker Wall Scraper Does Many Jobs—and Does Them All Well

The Baker Rotary Hydraulic Expansion Wall Scraper will reach out so much farther than any other underreamer and performs so efficiently and safely, that a new technique in drilling is being established.

For example, the No. 4 Baker Wall Scraper which will run through casing as small as 7″ A.P.I. 24-lb. casing, *will ream* from a minimum of 6¼″ to a maximum of 11″.

It is being used to underream for the insertion of liners in what would otherwise be tight holes.

Many operators use the Wall Scraper to scrape down the walls of the hole before cementing, very often enlarging the hole for a distance to insure more favorable conditions around and above the shoe.

Scraping the oil sands makes it possible to bring in a well easier and it will clean up in much less time.

The above uses are only a few of many. Write, today for catalog.

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Wire Rope

American Cable Company, 230 Park Avenue, New York, will send upon request an illustrated booklet titled "The Cardinal Reasons Why You Save Money With Tru-lay Preformed Wire Rope."

Lathe

South Bend Lathe Works, 426 East Madison Street, South Bend, Indiana, has published for distribution Circular No. 8, describing a new eight-inch bench lathe for general utility work with wood and steel.

Magnetic Switches

General Electric Company, 1 River Road Schenectady, New York, has released for distribution to interested parties Bulletins Nos. GEA-19G, GEA-1565, GEA-1587, and GEA-1588, describing and illustrating various types of magnetic switches for use in the production and refining branches of the oil industry.

Pipe Machine

The Oster Manufacturing Company, Cleveland, Ohio, recently released for distribution a bulletin describing its No. 512 Oster Tom Thumb pipe machine for pipe of from one half-inch to two-inch diameter.

Drilling and Fishing Tools

Kesselman and Company, 122 Ann Street, Parkersburg, West Virginia, recently published a 32-page illustrated catalog of its line of drilling and fishing tools and miscellaneous equipment for use on oil drilling rigs, most of the equipment described being for cable tool rigs. Among the equipment described in the catalogue are rope sockets, jars, stems, stem boxes and pins, bits, wrenches, bailers, rope knives, spears and grabs, spuds, reamers, casing hooks, casing bowls, sand pumps, milling tools, swedges, temper screws, swabs, packers, liners and slips.

Colloidal Graphite

Acheson Oildag Company, Port Huron, Michigan, has released for distribution a 24-page booklet describing colloidal graphite, its properties, uses and advantages as a lubricant.

Roller Bearings

Hyatt Roller Bearing Company, Newark, New Jersey, recently issued a two color, illustrated, 80-page book titled "40 Years" which tells by word and picture the story of the growth of the concern, the manufacturing processes of its various types of bearings, and describes the company's products. An important feature of the book, which celebrates the company's fortieth birthday, is that it details performance of the bearings.

Pipe Tools

The Borden Company, Warren, Ohio, recently published a folder describing, illustrating and quoting net prices on the improved line of Beaver pipe tools such as taps and dies, die stocks and cutters.

Glass Filters and Apparatus

Fish-Schurman Corporation, 230 East 45 Street, New York, New York, has published for distribution a 12-page, illustrated catalog, No. 230E, describing and giving prices on Jena glass filtering crucibles, filter funnels of various types, micro-filters, filter apparatus for gas, gas washing bottles, filters for special extension work, and miscellaneous gas apparatus for laboratory and field use.

Couplings

Victaulic Company of America, 26 Broadway, New York, N. Y., tells the story in detail of Victaulic couplings in an attractive 32-page loose-leaf catalog recently off the press. It gives a complete pictorial review of the design and use of Victaulic couplings and pipe, with the majority of the illustrations coming from actual working views.

Mexican History

"El Petroleo En Mexico" is the title of a 106 page unfinished history of petroleum in Mexico, a work of Ezequiel Ordonez, engineer. Copies of this history may be obtained from Empresea Editorial de Ingeneria y Arquitectura, Ciudad de Mexico, Distrito Federal, Mexico. The book is printed in Spanish.

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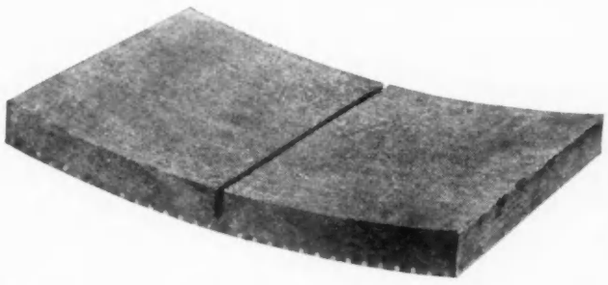
American Brakeblok had to Prove Itself to Win this Leadership



The leadership among oil-well brake linings was not handed to American Brakeblok on a silver platter. At first, people would not believe that any lining could make the tremendous reductions in braking costs that were claimed for American Brakeblok. But those who tried this revolutionary, new-type material soon found that the statements were true —that American Brakeblok *did* slash braking expenses, often by as much as half.

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American Brakeblok is an entirely different type of lining. It is a dense, non-compressible material possessing qualities not found in other linings. You can depend upon it to deliver more ton miles of service at far less cost. Write for complete information.

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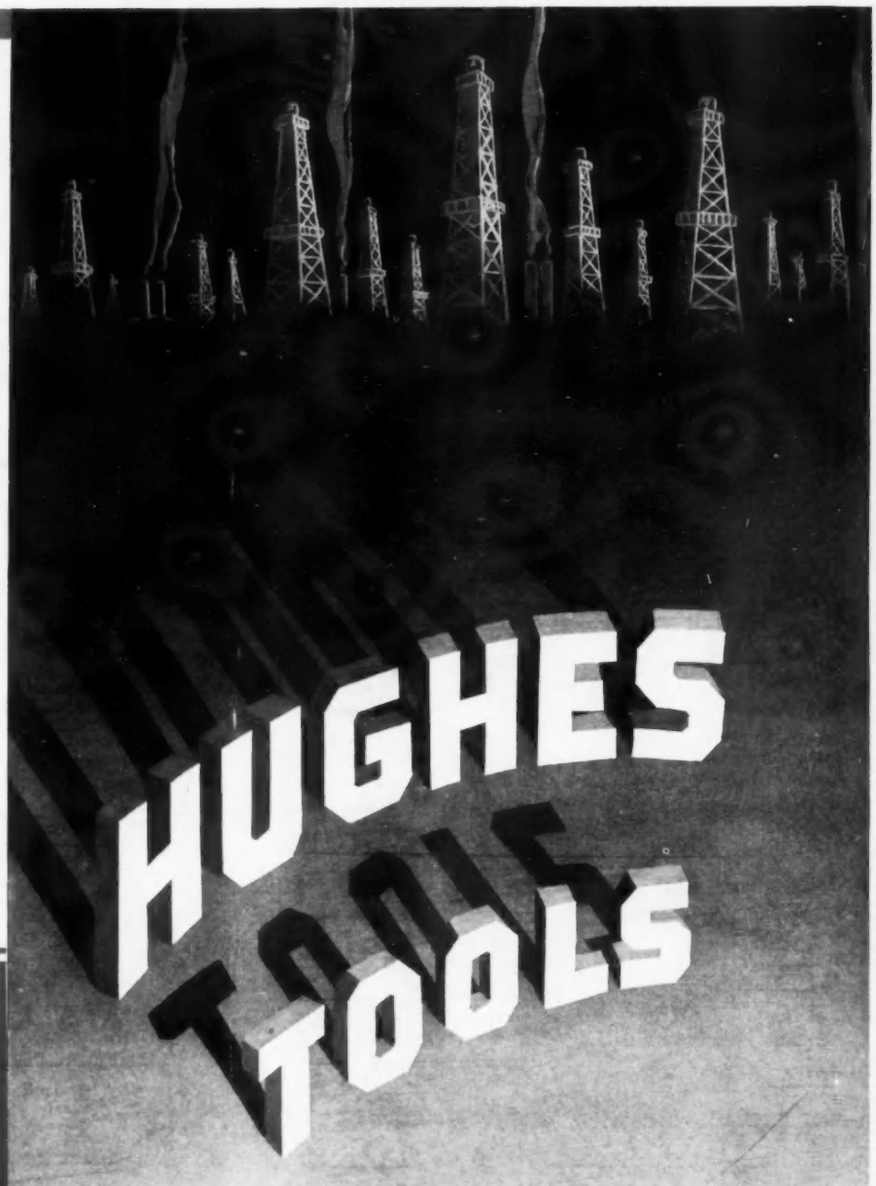

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